

रजिस्टर्ड नं० पी०/एस०एम० 14



राजपत्र, हिमाचल प्रदेश (असाधारण)

हिमाचल प्रदेश राज्यशासन द्वारा प्रकाशित।

शिमला, शनिवार, 31 मार्च, 1979/10 चैत्र, 1901

हिमाचल प्रदेश सरकार

PUBLIC WORKS DEPARTMENT

NOTIFICATION

Simla-171002, the 24th March, 1979

No. 9-12/72-PW(B).—In supersession of this department notification of even number dated the 23rd February, 1979, as published in the Himachal Pradesh Rajpatra (Extraordinary), dated the 28th February, 1979 and in exercise of the powers vested in him *vide* section 17(5) of the Himachal Pradesh Town and Country Planning Act, 1977 (Act No. 12 of 1977), the Governor, Himachal Pradesh is pleased to publish the Interim Development Plan Simla Planning Area for general information which has been approved under section 17 (4) of the aforesaid Act. It shall come into operation from the date of its publication in the Official Gazette.

By order,
B. C. NEGI,
Secretary.

INTERIM DEVELOPMENT PLAN FOR SIMLA PLANNING AREA

TOWN AND COUNTRY PLANNING ORGANISATION HIMACHAL PRADESH SIMLA-I

FOREWORD

Migration of rural population to the towns is a universal trend. Simla town is no exception. On account of rapid haphazard growth, lot of damage to this fair city has taken place. Rapid deterioration of the town has attracted serious attention of Himachal Pradesh Government. The Chief Minister and his Council of Ministers as also Chief Secretary, Secretary (Public Works) and Secretary (L.S.G.), have taken personal interest in a bid to prevent further haphazard growth and to ensure controlled expansion of the town. In fact, even at the risk of inviting resentment from the public, Government took a bold decision to stop all construction for a period of six months to enable the Town Planning Department to bring out an interim development plan. Periodical review of the work done by the department was done by the Chief Secretary. The Town Planning Organisation, though handicapped with shortage of staff and time all the limited resources, has been able to carry out exhaustive analysis of city. Planning is an attempt to shape and guide the physical growth of the town keeping in view needs of the community, namely—Housing, Administrative, Social, Cultural and Recreational. Planning is every-time a controversial subject as it cannot satisfy all the persons for all the time.

It becomes more difficult in a hilly town of importance like Simla. Different planners think differently while planning a town. It is probable that best plan prepared by the planners may not always satisfy all the persons for whom plan is prepared. It is also well known that the community also does not take kindly to any planned development straightaway as they are keen on development and growth as it suits their individual needs and wishes. Planners' job is, therefore, both difficult and thankless. It is, however, hoped that the development plan now prepared will help in healthy future growth of the town. It is also hoped that the plan will not only satisfy the requirements of the community to a large extent, but would also enable Simla to regain its past fair name on the tourist map.

Diligent work done by Mr. R. K. Mehta, Town and Country Planner and his devoted team for bringing out this plan in such a short time is acknowledged.

R. C. SINGH,
Director,

Town & Country Planning Orgn.,
Himachal Pradesh, Simla-171001

February, 1979.

PREFACE

Urbanisation is an index of development. With the pace of development urbanisation grows. These are inter-dependent variables and one can not proceed without the other. In this State the relative urbanisation trend is very low as compared to other States. However, this is bound to rise as a result of development.

In the process of development, physical development control is very important, not only for increasing the economic efficiency but also for creating healthy environment.

Simla, the Capital City of Himachal Pradesh has been experiencing rapid and haphazard growth during the last few years consequent to its importance as a State Capital, popular hill resort and tourist centre and the premier cultural, educational and trading centre of Himachal Pradesh. The need for preparing a Development Plan for Simla has long been realised by the State Government in order to channelise future urban growth along sound lines. This Development Plan is an attempt for achieving the desired goals. Keeping in view the importance and growth trend of this city, it is important that the Interim Development Plan as proposed, is implemented in the letter and spirit.

I wish to acknowledge the co-operation extended by the officers and the staff members who have put in strenuous efforts, without which this work would not have been completed within a short period of six months. I would also like to put in my gratitude to the Director (T.P.), Secretary (T.P.) and the Chief Secretary to the Government of Himachal Pradesh under whose clear guidance this work could be carried out so quickly. The whole of the credit for the formulation of this Development Plan goes to Hon'ble Chief Minister and his Council of Ministers, who have taken keen interest for planning the city development programme in order to control the haphazard growth taking place in the town and giving us six months time for preparation of the Development Plan.

R. K. MEHTA,
B. Arch. Dip. T. P. (LEEDS),
A. V. I. (LOND) M.A.S.P.O (U.S.A.)
Town & Country Planner.

February, 1979.

CHAPTER I

PLANNING DIALOGUE

1.1 Introduction.—The basic principles of planning, may it be a fiscal planning or physical planning such as Town Planning, Regional Planning or Village Planning are almost the same. The basic technique of Town & Country Planning, may it be for plains or hilly areas are also theoretically identical. Planning means optimisation of resources for accruing highest benefits to man. The difference in different types of planning is marginal and that too in working approach. In hills where areas/lands are bound to differ in natural setting that is climatology, geology, type of terrain, socio-economic characters, aesthetic and also environmental values; different approach is required for different such like situations. A typical modest scheme once evolved cannot be revolved for different areas as is generally done in plains. Therefore, volume of physical planning work is much more and intricate in changing situations in the hills. There are also other constraints typical of this region like population and physical thresholds operating quickly in the alpine and semialpine habitat. Population is scattered in far-flung areas with high dispersal and low density. The communities are few and far between and farmsteads are grouped in small hamlets/villages bounded by steep hills and deep rivers providing difficult accessibilities. It is difficult to justify any service worth the name from any standard and per capita cost of development is, as such very high. Construction of roads, laying of electrical lines, irrigation and drinking water supply lines, provision of schools, hospitals and other basic infrastructure for a small hamlet say of about 30 farmsteads would mean very high cost. Can we then deny these developments reaching to these peculiarly circumstanced people in our socialistic oriented society? Similarly comparative maintenance, per capita cost for such facilities is also high. This would connote high taxation for financing these developments which these economically unhappily placed people cannot afford to pay. Although solution to this is apparently difficult, yet not impossible. Through physical planning research, certain acceptable solutions can be propounded which can economise the funds, efforts and resources.

Similarly there are problems in developing of the towns and growth centres. There are large number of growth centres and growing towns, but they are uncomparable with the Metropolitan and other cities and towns in the plains. Some of our Urban Centres are much smaller in size than an average village in the plains, and therefore, these are lacking better infrastructure. Population growth in these Urban Centres is required but cannot be afforded due to various physical thresholds operating like non-availability of developable land, drinking water, communication net-work and resources for employment generation. Therefore, per capita comparative development cost of providing an urban infrastructure is high for such towns.

The above is one side of the picture. The other and very important dimension of this picture is the conservation of ecological environment and preservation of areas of scenic interest. Mostly technological developments do plunder these values and here also physical planning have to play a great role to plan the developments in a way that such an ecological order is least disturbed while accruing basic technological benefits to the people.

All developments are inter-related. As construction of a new road opens up an avenue for agricultural marketing and, this in turn, leads to growth of towns, industries and employment in a particular complex. Therefore, the type of road net-work planned would suggest type, size and viability of marketing pattern, industrialisation and extent of employment potentials. Construction of roads, agriculture markets, industrial estates are, no doubt important; but more important in face of scarce resources, is the choice amongst various alternatives for their optimum location and construction. Choice amongst varying alternatives is the planning job. Physical planning means optimisation of all these net-works in the totality of local economy by way of suitable selection and location.

Obviously, planning needs public participation. Public enthusiasm for physical planning is less in this State; it might be due to lack of knowledge. For people it is a must to know that the Planners work is for the betterment of man; just to improve his working capacities; to save his resources, efforts, energies and provide him congenial environment for his health and mental growth. The public participation in planning is, therefore, very important.

1.2 'Simla'—a Melting Pot.—Basically Simla is one of the planned cities in the country known to be the 'Queen of Hills' in the lap of Himalayas. However, during the recent decades nothing tangible could be done to guide its growth pattern on scientific lines. The present structure of Simla town was originally designed by the British Administrators for a probable population of 25,000. Without undergoing any substantial change in the spatial and socio-economic infrastructure of the town, the pressure on its infrastructure has increased to about 400 per cent. The water supply, roads/streets, shopping centres, housing stock, under-ground sewerage and electric system which were meant for only 25,000 population are now catering 1,00,000 local population in addition to the tourist influx. The town was basically planned as health resort, with secondary function of Summer Capital of the then British India. Now the situation and the function of this city has changed without changing the city structure suiting to its functional requirements. This has, but naturally, created a number of problems out of which a few are enlisted below:—

- (i) Congested built up areas at a number of places;
- (ii) Traffic hazards;
- (iii) Deforestation of natural landscape;
- (iv) Concentration of all the facilities in the hub of the city;
- (v) Erosion of land by hill cutting, deforestation and sinking and sliding of land due to heavy load of buildings in certain pockets;
- (vi) Segregation of uses (non-segregation of various uses have also created bottlenecks and slums);
- (vii) Missing links between the place of work and place of living;
- (viii) The city infrastructure which was basically designed for a specific population could not be augmented for the increased demands/population etc.

1.3 Planning Criteria.—The Government is, however, serious for the planned development of this city and some efforts have been made in this direction during the recent years but without achieving the desired ends. Planning the development of city involves multi-dimensional approach and this can be summed up in the following groups:—

- (i) Legal aspects of physical planning.
- (ii) Financial aspects for implementing the planning.
- (iii) Administrative efficiencies, co-ordination and public participation.

1.3.1 Legal aspect of Physical Planning.—The physical planning involves control and regulation of land use. In the Indian Constitution, land is covered under the Fundamental or Legal Rights i.e. Right to Property. Therefore, nothing can be done which may directly or indirectly hit the right of property of any citizen. This, therefore, call for a mass acquisition of land by paying suitable/appropriate compensation or amount which is difficult task within the limited financial resources. However this objective can be achieved by motivating the public participation in planning and co-ordination. If the citizen are educated about the utility of developing habitat on scientific lines, they would certainly like to create a proper environment for themselves. Still, however, it is a time consuming process and creates problems here and there.

1.3.2 Financial aspect of Physical Planning.—Even if, the land is acquired and co-operation and right participation of the citizen is available, the environmental and infrastructural development of the city is the job of the Government. This includes, water supply, sewerage, electricity, drainage, landscaping and housing as well. This requires a huge amount which is always not readily available with the developing agency.

1.3.3 Administrative aspect of Physical Planning.—Most of the city problems might have grown because of absence of inter-departmental co-ordination or system approach. This therefore, calls for first attention, because it involves financial or legal problems. There may be certain problems which can be eradicated just by administrative competence. The following example would perhaps explain the point in view :—

In Simla city, some public offices are located in localities like Boileaugunj, Chaura Maidan; U. S. Club, Chhota Simla and Kasumpti and almost in all these localities, some Government accommodation is also available. While making allotment, the place of work and place of living relationships are perhaps un-knowingly not considered and thereby a Government servant working in Kasumpti might be provided accommodation, at times, at Boileaugunj or *vice-versa*. This creates a problem of inter-relationships which results in wastage of time and energies in moving from one place to another calling for added traffic transportation net-work and also traffic hazards on the roads. This can be improved by an administrative decision or inter-departmental co-ordination for allotting accommodation to their employees near to their working places.

Three phased planning programme is, therefore, required to tackle the city problems as given below :—

- (i) To look to those problems which involve least financial and legal problems in the first instance.
- (ii) In the second stage, to look to the environmental and city infrastructural needs, and solve them on merit basis.
- (iii) In the third phase, long range development problems are dealt with.

1.4 Development Approach.—(a) In the first instance, it is suggested to improve work relationships and circulation system, proper location of bus terminal facilities and control on traffic movements in such a way which may involve least fatigue and hazards. For this, proper articulation of road net-works are suggested with appropriate terminal and parking facilities and organisation of competent landuses.

(b) The Simla being capital of the State, it is important to decentralise the offices within the urban planning limits along with earmarked housing facilities besides, planning a capital complex. Such a strategy would eventually encourage decentralisation of commercial and other infrastructural facilities.

(c) To freeze the landuse of such problem areas which are sinking, sliding, steep and densely forested/landscaped areas for other than landscaping, sports and recreations.

(d) To acquire the vantage areas for undertaking suitable institutional developments on the mass scale.

(e) To undertake 'Site and Service' programmes for utilising the private savings and for increasing the housing stock in a planned order.

(f) All the lands and buildings under Government ownership or under the ownership of any other local body must be vested with an agency responsible for development of Simla Planning Area.

CHAPTER II

ECONOMIC PROFILE OF SIMLA REGION

2.1 Introduction.—The economic region of an administrative city like Simla may not be same as the administrative region. Whereas the boundary of an administrative region is much dependable on administrative and political decisions, the boundary of an economic region is delineated taking into account the topography and similarity in socio-economic infrastructure.

Ideally the State can be sub-divided into 4 major regions namely; (1) *Kangra Region*: which includes Chamba, Una, Hamirpur and Kangra districts; (2) *Kulu Region*: which include Bilaspur, Mandi and Lahaul & Spiti districts; (3) *Simla Region*: which includes Solan, Simla and Kinnaur districts and the 4th and the last is *Sirmur Region*: which only covers Sirmur district.

Simla metropolis is happily situated in a range of hills which forms the last traverse spur of the central Himalayas south of the sutlej. Its location is 30°—6' north latitude and 77°—11' east longitude, and its mean elevation is 7,984 feet M. S. L. The existing town covers an area of 18.13 sq. km.

Simla metropolis being a capital city of the State holds influence over whole of the State in the matter of administration, social and educational functions, yet it gets the major impact of social, cultural and economic activities from the Simla Region which includes Solan, Simla and Kinnaur districts besides, Karsog tehsil of Mandi district, Rajgarh tehsil of Sirmur district and Ani and Nichar tehsils of Kulu district.

2.2 People: According to 1971 Census the total population of Simla Region is estimated 8,06,419 spreading over 4,502 villages, and about 11 towns and within the geographical area of 14,690 sq. km. This area forms 26% of the total area of the State whereas the population constitute 23% of the total population. Necessary demographic features as per 1971 Census of this region are tabulated in Table No. (1).

TABLE NO. (1)

DEMOGRAPHIC FEATURES OF SIMLA REGION AS PER 1971 CENSUS

Sr. No.	District Region	Area in sq. km.	Population	No. of towns	Urban population	Density per sq. km.	Sex ratio
1.	Simla	4996	4,19,844	5	61,274 (14.6)	84	868
2.	Solan	2072	2,37,403	6	23,945 (10.1)	114	923
3.	Kinnaur	6553	49,835	—	—	8	887
4. (A)	Karsog, District Mandi	588.1	47,906	—	—	81	Not available
(B)	Rajgarh, District Sirmur	412.5	24,992	—	—	60	Not available
(C)	Ani, District Kulu	67.8	26,439	—	—	390	Not available
Total Simla Region..		14689.4	8,064,19	11	85,219 (12.0)	55	
Himachal Pradesh..		55600.0	34,60,434	35	2,41,890 (6.9)	62	974

Note.—Figures in brackets show the percentage from total population.

Source: Census of Himachal Pradesh, 1971.

Directorate of Economics and Statistics.

2.3 Urbanisation.—The rate of urbanisation in this region is much higher as compared to other regions relative to their population and the land. The rate of urbanisation in this region is 12% which is comparatively higher than 6.9% for the whole of the State. This region has 85,219 urban population spread over about 11 towns which constitute total 35% of the total urban population. Simla being regional metropolis, a large number of small and medium satellite towns are linearly coming up along with the N. H.22 and Kalka-Simla Railway line serving this mother

city namely, Theog, Mashobra, Jutogh, Chambaghat, Solan, Dharampur etc. Keeping in view the pressure of urbanisation, the government has already started developing the Parwanoo New Township on the corridor of this region near Kalka so that this town may act as a big magnetic for resource and non-resource based industries which are not desirable at Simla. This town when fully developed would relieve Simla city from major industrialisation which is need based and which otherwise bound to occur as a result of changes in the socio-economic pattern in this region.

2.4 Agriculture.—Agriculture is the mainstay in the economy of this region. However, as compared to its geographical area of 4,80,058 hectares, only 1,81,139 hectares (37.7%) is total cropped area; and 68,784 hectares is under the forest whereas other area includes pasture and waste land etc. The total foodgrain target for the year 1978-79 for this region is estimated to be 3,32,000 tonnes as compared to total target of 18,50,000 tonnes for whole of the State. The other important commercial crops like vegetable and ginger are also abundantly grown in this region.

2.5 Horticulture.—The geoclimatic feature of this region are very much congenial for the development of horticulture specially for temperate fruits. During the recent years, the horticulture has become a king-pin in the economy of this region. A shift from the agriculture to horticulture in the economic pattern of this region has revolutionised the economic pattern of the people and the area. This has created new economic avenues like higher rate of commercial order, rapid pace of industrialisation and marketing; and also urbanisation in this region. This impact is likely to grow steadily in the future. This would be apparent from the following data. During the year 1972-73, a total production of all fruits in this region was 1,13,000 tonnes which is expected to be 2,35,000 tonnes during the year 1978-79 and projected to be 4,11,000 tonnes by the turn of century. This would be more than half of the total fruit production in Himachal Pradesh which is estimated to be 7,76,000 tonnes by the year 2000. From such a steep rise in the fruit production in this region; one can very well imagine the impact of horticulture sector on the pattern of urbanisation in this area. Amongst all types of fruit, the apple has become a biggest single product which was 78,000 tonnes during the year 1972-73 and estimated to be 1,62,000 tonnes during the year 1978-79 and this estimation is projected to be 2,83,000 tonnes by the turn of century. Similarly the coverage of land under all types of fruit is also likely to increase steadily from 29,000 hectares during the year 1972-73 to 2,83,000 hectares by the turn of century. The Kotgarh in the Simla region is probably one of the richest villages in the world. A large number of other villages in this region are also following Kotgarh in richness as a result of horticultural activities. Naturally richness has motivated them to move from farmstead to Simla City for availing better urban facilities as an alternative home. This was being felt increasingly during the recent years and is likely to get more stimuli in the future. This regional economic phenomenon is likely to increase the city population at a higher pace and is also likely to impact city functions invariably.

2.6 Forest.—Forest is the major land use in Himachal Pradesh covering an area of 22,000 sq. km. which forms 39% of the total geographical area of the State. In Simla region, forests are covering approximately 4,000 sq. km. of the area which forms 18% of the total forest area of the State. However, it is only 29% of the total area in this region. The forests produce is a large segment of the total revenue of the State. This also produces a large number of direct and indirect employment. As a result of forest activities, a large number of small and medium scale industries, based on forest resources, are coming up in this region, besides, timber merchant and timber markets. This is, therefore, impacting growth of urbanisation too in this region. The impact of forest resources is likely to be steady to continue the higher trend of the urbanisation because of the national policy to increase forestation from 39% to 60% of the total area of the Pradesh.

2.7 Industries.—The rate of industrialisation in this region is, however, negligible to be reckoned with. However, two big industrial townships are coming up on the main corridors i.e. first at Parwanoo near Kalka and second Nalagarh/Mehatpur in the foot-hill of this region. According to 1972 estimates, the total small and medium industries in this region were 660 employing

2,000 people having a total capital investment of about Rs. 5.00 crores. Most of these units are agricultural, horticultural and forest based.

2.8 Tourism.—Simla is on National and Inter-national tourist map. The enchanted natural land scape surrounding Simla has given it a name of the world fame. The Simla District Gazetteer 1904 describes the scenery around Simla as below:—

The scenery around Simla hill is very fine. The valleys on either side are deep, almost precipitous, and thickly clothed with forest. To the south, the Kasuali and Sabathu hills appear in the immediate foreground and behind them the plains stretch out to the horizon ; the Sutlej is distinctly visible on a clear day from the point where it sweeps round to the west at Rupar till it melts into the horizon. To the South-East lies the Chail peak dotted with the white houses of the Patiala summer headquarters. To the north and east, a network of mountain chains, range rising over range, is crowned in the distance by a magnificent crescent of snowy peaks—the mountains of Kulu and Spiti on the north, and the central range of the eastern Himalayas stretching east and south-east as far as the eye can reach. The nearest of these peaks, that of Cheru, on the confines of Kulu and Mandi, over 16,000 feet in height in 27 miles in a straight line from Simla, while the nearest of the central Himalayan peaks is double that distance. Nearer, the sharp tooth of the Shali peak is a striking object, while just across the valley are the hills of Mashobra and Mahasu.”

There are a large number of other places surrounding Simla within its region like Chail, Naldehra, Narkanda, Kasauli etc. Out of the total tourists traffic to this State, more than 50% of the tourists come to Simla to enjoy the peculiar flora and fauna in this region. The tourist population in this region is now being seen all the year round rather than summer season as per past trend. The rate of winter tourists is steadily increasing who are attracted mainly of the snow and snow games.

Thus it would be seen from the above brief city regional resource analysis that Simla city is likely to take a new turn from its major administrative nature to the commercial function. This impact can not be denied neither over looked for conceiving a comprehensive strategy for this city development.

Simla city gets its economic life from the regional exports and imports which are transacted through Simla. The exports includes fruits, Potatoes, and imports include food-grains, clothes, utensils, implements, oils and other manufacture goods.

CHAPTER III

SIMLA AND ITS ENVIRONS

3.1 Setting.—The history of Simla city is not very old. It is about 160 years ago that the British Regime had come to this area. The lands of the present Simla City originally belonged to Maharaja of Patiala and the Rana of Keonthal and it was only in 1830 when the British Government decided to acquire the same. In 1842, the total population of this area was estimated to be 320 only. This soon became summer capital of Government of India in 1850 and the Government of Punjab.

Regarding the name “Simla” “District Census Handbook of Simla District, 1961” describes as under:

“Simla derives its name from ‘Shyeamalay’ the house built of blue slate erected by a Faquir on Jakhu, the first nucleus of the settlement.” Another version is that the word ‘Simla’ has its origin in ‘Shamla’ which means a ‘Blue female’ and may be another name for the goddess Kali.

It is stated that at a site near the Rothney Castle on the Jakhu hill, there existed a small temple dedicated to the Kali. It has a small wooden image of 'Majee' which was worshipped by the native people. Sometime during the early British settlement in the locality, this image was removed to the present site of Kali Bari.

As already reported in the previous chapter, Simla city is elevated at an altitude of 7984' MSL at 30° -6' north latitude, 77°-11' east longitude on a number of spurs.

The present Simla city is developed on seven hills spurs as below:—

1. Jakhu Hill	8049 feet.
2. Observatory Hill	7050 feet.
3. Prospect Hill	7139 feet.
4. Elysium Hill	7403 feet.
5. Summer Hill	6899 feet.
6. Potter Hill	6800 feet.
7. Musium Hill	6890 feet.

The above seven hills have played an important role in articulating road networks. Following are the important roads/streets around these hills and which provide convenient walk-ways:—

- (1) Circular road Chakkar around Prospect Hill;
- (2) Circular road around Summer Hill;
- (3) Road surroundings the observatory Hill which connects Raj-Niwas, Boileauganj and Summer Hill;
- (4) The road surrounding Musium Hill;
- (5) Upper Jakhu road surrounding Jakhu Hill;
- (6) Longwood circular road surrounding Elysium Hill; and
- (7) the last but not the least is the major circular road known as 'Cart Road' which almost revolves around the main city hub.

Another important character of this road articulation network is that almost all these circular roads are connected with a curvilinear city life line known as 'Mall Road' from Tilaknagar (Boileauganj) to Chhota Simla.

The other important characters of these hills are gentle slopes in the southern spur as compared to the northern slopes. Only a major flat piece of land in this area at an altitude of 6100' is Annadale which also functions as a helipad and parade ground for the preliminary Military Training.

3.2 Exiting Development pattern.—Development pattern of Simla ever since the town's establishment by the British, has been dictated by the rigorous constraints imposed by rugged topography characterised by steep slopes, elongated hilly spurs, deep valleys and gorges, preponderance of densely forested areas, and zones of perpetual sun-shade along the Northern slopes where sunlight does not penetrate any time of the day rendering them unsuitable for habitation purposes. On account of the rugged topography, vehicular accessibility in the town has been extremely limited entailing walking over long distances, uphill and down hill, which is the most common mode of movement in the town. "Distance" therefore is an important constraint of future development of Simla under present set of accessibility considerations.

The town is served by two major arterial roads running generally in a west-east direction around which the internal circulation network has been woven. The Mall which is truly a "Pedestrian Mall" despite its capacity to take vehicular traffic runs at a higher altitude along the elongated spur on which the main town has grown up in the form of a crescent. On the Mall all the important public and semi-public institutions, Government offices, cultural institutions,

the shopping complex, hotels, educational institutions and residences of the elite are located. The Cart Road which is the only vehicular artery of the town runs at a lower altitude generally parallel to the Mall and skirts the Simla Hills providing a vehicular loop serving the various parts of the town. Most of the development has taken place between the Cart Road and the Mall, although with growing demand for residential development, areas below the Cart Road have become gradually developed. However the Main Activity Zone of the town, whether Governmental or Commercial or Cultural, is confined to the areas on both sides of the Mall and between the Mall and the Cart Road along the Southern Slopes of the Jakhu Hill. The narrow gauge Kalka-Simla Railway line which runs parallel to the Cart Road at a lower level also terminates in close proximity to this Main Activity Zone and the Railway Station alongwith goods and marshalling yard is also located here. So also are the existing Bus terminal, truck-terminal as well as the taxi-terminal facilities located in this Zone.

With the growth of Simla, development, mainly residential, took place along the hilly spurs branching off the main spur in a northerly direction viz. the Summer Hill Area, Kaithu Area, Elysium Hill Bharari Area; along Eastern continuation of the main spur viz. Sanjauli-Dhalli complex; along the southern slopes below Cart Road in areas known as Nabha Estate, Phagli, Tuti-kandi etc. and along a crescent-shaped continuation of the main spur Southwards in Chhota Simla-Kasumpti Complex on the East end and Boileauganj-Chakkar on the west end. Tutu-Jutogh area, further Westwards on the Simla-Mandi Highway also grew up along with a cantonment located at Jutogh.

The Southern slopes being more favourable from climatic considerations for development purposes have become vulnerable to urban sprawl whereas the Northern slopes are not so vulnerable and accommodate the only sports and fair-grounds of Annadale, recreational sports like Glen and Chadwick Falls and dense picturesque forests. As a result of this, while the favourable Southern slopes between the Cart Road and the Mall have been densely built up resulting in overcrowding, admixture of commercial and residential uses, and generally slummy and insanitary conditions in some parts, the outlying areas have developed sporadically and in a disorganised fashion. These areas are deficient not only in terms of employment centres, but also in respect to rational distribution of basic Community facilities and services, and have to depend on the main Centre for meeting these requirements. Further, unchecked intensive building activities in the Central area, particularly around Jakhu Hill Complex coupled with geological factors has also posed a threat to large scale subsidence of hill-slopes.

Obviously over-crowding and intensive building activity in this Central Zone has been necessitated owing to extremely limited vehicular accessibility in the town and concentration of work centres and Central activities in this Zone, with the population trying to cluster as close as possible to their work-centres in a bid to curtail distances, which normally would need to be covered on foot. The favourable aspect of Southern Slopes for development purposes is revealed by the vast differential in land values in this zone compared to other less favourable areas. Land value in Simla ranges from Rs. 200 to Rs. 225 per sq. yd. in the Bank-estate located in the heart of the city to Rs. 15 to Rs. 30 per sq. yd. in Annadale-Kaithu area, Rs. 30 to 40 per sq. yd. in Sanjauli, whereas it is Rs. 100 to Rs. 150 sq. yd. in Lakkar Bazar and Reading hospital area owing to locational physical and climatological factors.

Simla is basically a Service Town. Being the Administrative Centre of the State, it is also the nerve-centre of all State-wide Social, cultural, educational and re-creational activities on one hand, and whole-sale commercial trading and distribution functions for most of the districts of the State on the other, activities and functions which go alongwith its status of a State Capital. Further, not only it is a famous alround hill-resort of the Himlayas attracting tourists in growing numbers every year during summer as well as in winter, it is also the entry-point to various Tourist Centres and Recreational spots of the State, which has been a significant factor not only in shaping its existing pattern of development, but also in planning for its future growth.

The overall development in Simla has taken the shape of an irregular crescent identifying itself as a unique combination of valleys and spurs which commands a panoramic view of scenic

beauty all round.

The East-west axis has emerged as the main axis of development because of milder slopes along its Southern face and favourable climatic factors. From this main axis several spurs have projected towards North and South providing the base for development. On the basis of certain studies it is found that a range of 1,800 to 2,000 metres altitude has been the most favourable Zone for development in the main town, and this is the Zone which traverses along the east-west axis and extends to the North and South spurs where development has taken place. Areas lying in the above range of altitude constitute, by and large, the warm Zone favourable for development. The ridge offers better climatic conditions for settlement purposes than deep and narrow valleys as development along the ridge enjoys mild breeze, longer sunlight, early day break and fresh air. Southern aspects of the ridge are most suitable for settlement as they receive maximum solar radiation during winter and little direct radiation during summer. Some of the aspects which are characteristics of the present pattern of development of Simla are outlined below:—

3.2.1 Wind Ward Areas.—Winter winds coming from north-west strike at Western slopes of Summer Hill, Kaithu Hill and Elysium Hill, rendering these wind-ward areas unsuitable for settlement purposes because of extremely chilly winds in winter.

3.2.2 Sun-shade Areas.—During winter when noon sun angle is 35° , the Northern slopes become sunshaded because of the peculiar topography of Simla as a result of which temperature goes down to a great extent rendering such areas unsuitable for development purposes. Similarly, heavy snow-fall occurs on the western slopes on the Simla hills, northern slopes remains covered with snow for a much longer period.

3.2.3 Forested Areas.—Total area covered under forests in Simla Municipal Limits comes to 1,150 acres. As the forests give protection to the settlement for chilly winds, check soil erosion and add natural beauty, they require to be preserved and protected from onslaught of development.

3.2.4 Building Use.—Hill morphology has played a prominent role in determining the land use of Simla. Because of sloping sites there is an advantage of getting access to the buildings at two levels, which in Central area particularly, conveniently allows to bring forth different uses in the same building at different levels. In other words vertical segregation of uses rather than horizontal segregation is conspicuous in building uses in the town with ground floors as well as the top floors being used for commercial purposes as they open out on main streets at the upper level as well as the lower level, the intermediate floors being used generally for residential purposes.

3.2.5 Existing land use structure of Simla.—According to a survey conducted in 1971 the total developed area under various uses in the town extended to 1,463 acres of which 1,414.50 acres (96.50%) were within the Municipal limits. Municipal limits of Simla cover an area of 18.12 sq. kms or 4,480 acres of which 32% comprised the "Developed area", the remaining 68% accounting for the "Undeveloped area" comprised of largely forested tracts (1150 acres) and otherwise vacant lands (1915 acres). Of these vacant lands, 620 acres are otherwise suitable for development purposes. Following Table gives a break up of the developed area under various land use categories.

TABLE NO. 1
EXISTING LAND USE STRUCTURE OF SIMLA—1971

Sl. No.	Land use categories	Area in acres	% of developed area
1.	Predominantly residential	1050.30 (30.30)*	71.60
2.	Predominantly commercial	40.70 (2.00)*	2.80
3.	Public & Semi-public institutions	218.00 (14.10)*	14.90
4.	Governmental	20.90	1.45
5.	Industrial	4.60 (2.10)	0.35
6.	Organised open spaces	26.40	1.80
7.	Major roads	85.00	5.90
8.	Railway line	17.10	1.20
	Total developed area	1463.00	100.00
	Developed area within Simla Municipal limits	1415.00	96.50
	Area under forests	1150.00	25.70

*Area indicated within brackets falls outside the Municipal limits.

A study of the existing landuse pattern of Simla reveals a heavy concentration of Governmental Commercial and Institutional activities within the central part of the town bounded by the Mall and the Cart Road, and the surrounding areas mainly catering to the residential demand of expanding urban area. Predominant buildings use in Simla is residential. However, in Bazar areas buildings are put to various uses and usually commercial and residential uses are found to be mixed up within the same premises. Buildings put to public and semi-public uses are usually confined to their particular uses. The following table gives average land use figures for selected State Capitals to enable a comparative assessment of land use structure of Simla to be made.

TABLE No. 2
LAND USE AVERAGE FIGURES FOR STATE CAPITALS

Percentage of developed area 68%

Land Use Category	% of developed area
Residential	45.0
Commercial	3.7
Industrial	5.1
Public & Semi-Public	17.7
Parks and Play-grounds	4.9
Roads etc.	15.5
Other uses	8.1

The gross deficiency of organised open spaces and circulation network in Simla is amply revealed by their respective averages indicated in Table No. 1, although the general environmental conditions, except in the central congested built-up area of the town, have not been adversely affected owing to intervening forested areas. The grossly deficient area under road circulation network has been not only due to absence of motorable roads other than the Cart Road but also due to the narrow width of roads and absence of proper parking and terminal facilities. Another important factor revealed in Table No. 1, is the negligible percentage of area under organised industrial activity which speaks of the indifferent participation of the secondary sector in the economy of Simla despite immense potentialities. The area under commercial use also is somewhat lower than what it should be, particularly in view of the nodality of Simla as a regional commercial and distribution centre pointing out to the disorganised, over-crowded and congested conditions under which this important activity is presently functioning.

The gross area under predominantly residential use also appears to be considerably on a higher side leaving out less area for various non-residential activities. However, this may have been owing to a less intensive development of residential land on one hand, and also occurrence of unduly more unbuildable portions in individual residential plots consequent to hilly terrain. Similarly the percentage of developed area to the total area is much less compared to what is prevailing in other State capitals but this is a factor which is attributed to hilly topography and existence of extensive forested lands intervening the developed area. It would, thus appear that not only the disposition of the various landuses would need to be rationalised in the context of the future growth and development of Simla during the next two decades through a dispersed pattern of central activities and functions, their percentage distribution will also need some internal adjustments.

3.2.6 Land Ownership.—Out of the total area within the Municipal limits, as much as 53.7% is under free-hold private ownership, the rest being under the ownership of public bodies like Himachal Pradesh Government, the Central Government, the Railways and the Municipal Committee of Simla. The break-up of land ownership is given in Table No.3.

TABLE NO. 3
LAND OWNERSHIP IN SIMLA

Sl. No.	Ownership	Percentage	Area in acres
1.	Free-hold land	53.71	2460
2.	Land under Forest Deptt.	25.05	1150
3.	Land under H. P. Govt.	10.25	470
4.	Land under Central Govt.	8.08	370
5.	Railway Land	2.63	120
6.	Land under Custodianship of Municipal Committee	0.28	10

It would be noticed that among the public agencies, Forest Department of Himachal Pradesh owns the lion's share which automatically becomes unavailable for future expansion and development of the town. Most of this forest land is on the Northern slopes and hence unfit for development due to unfavourable climatic conditions. While the land presently under Government ownership has only a little scope of further development as most of it is already developed and put to one use or the other, there is scope of further development on the free-hold land under private ownership.

3.2.7 Housing and Residential Use.—Despite a high percentage of developed land under predominantly residential use in the town, Simla continues to face a housing problem both in its quantitative as well as in qualitative aspects. A survey of housing conditions carried out in 1971 by the School of Planning & Architecture and the Government of Himachal Pradesh Town Planning Department has revealed following interesting statistics:—

- (i) At the town level 6.8% of the total houses were in excellent structural conditions, 36.6% in good condition, 39.2% in fair condition and 17.3% in bad and dilapidated condition.
- (ii) 30.6% houses did not have internal water supply, 11.8% did not have electricity, 31.5% did not have a separate kitchen and 25.6% did not have a separate latrine.
- (iii) 38.9% houses were in single-storeyed structures, 47.5% in double-storeyed structure, 10.0% in three-storeyed structures and only 3.6% in four and multi-storeyed structure.
- (iv) 55.6% of the house holds lived in one habitable room each, two-third of which were mainly concentrated in the Long-wood area.
- (v) Highest occupancy ratio was 3.1 existing in the area just below the Central Court whereas houses in Summer Hill had the least occupancy ratio.

Despite the fact that while the town has been facing a tremendous growth in population during the last 25 years, housing activity has not been able to cater for the influx in population. In view of the prevalence of Rent Control Act, the rent returns are meagre in amount which has deterred the house-owners from expending any money on the maintenance of the houses. Consequently almost all the houses privately owned in the town are in a poor state of maintenance and repairs. Another aspect of housing is that a larger number of houses were originally designed to suit the requirements and way of living of high ranking British officers. On account of subdivision of existing houses, as well as distinctly different ways of living of local residents unlike the Britishers, a sort of abuse and misuse of the existing houses has resulted.

4. The residential areas are not distributed in sound relationship to the work areas. Government offices which comprise the largest number of work centres, and residential areas are scattered indifferently without any harmony between the place of work and place of living. While State Government offices are clustered in Chhota Simla, almost all the Central Government offices are located between the Mall and Cart Road on the Western side of the Lower Bazar. Government office accommodation as it is being not sufficient, as many as 30 Government offices are functioning in private premises decreasing the available housing stock. Government has been able to provide residential accommodation to only 12.5% of its employees, the remaining have to go for private accommodation in far-flung areas and in suburbs. A notable feature of this inharmounious relationship is the fact that while 48.5% of the total Government employees are working in various offices within the Central area, only 11.98% are living in this area. In general, the housing problem of Simla relates to generally slummy and sub-standard conditions, over-crowding, non-conforming land uses, acute housing shortage, inadequate facilities and services internal as well as external, poor drainage and sanitation, and lack of satisfactory maintenance and repairs of the existing houses.

3.3 Traffic and Transportation.—The transportation routes in a city can be compared to arteries and veins of a human body. The work of roads and other transportation channels determine a safe, efficient and convenient movement of people and goods. Simla being seat of administration and tourist resort suffers from out dated circulation patterns which was previously designed to suit the pedestrian and animal traffic but is now subjected to vehicular traffic. The circulation network pattern of Simla has developed so far according to the restraints of a hilly topography and the morphology of the town has some inherent draw backs. Steep terrain has restricted the scope of improvements like road widening or providing of street parking. The general topography does not encourage the use of slow moving vehicles and the vehicular traffic which constitutes mainly of trucks, buses, cars and jeeps is carried by the cart road which circumscribes the town, other roads being prohibited for vehicular use. Roads being at different levels, their inter-section require more space to function smoothly which is absent in most cases

leading to congestion at inter-section point. Simla had little traffic problems with in the town as the traffic generated in the town consequent to purely administrative and tourism function was not very much and the existing roads were adequate to cater to the needs. However, with the increase of commercial functions in the town, the traffic has been increasing at a much faster rate and signs of strain are already visible in the existing system in the areas like Kennedy House, Bus stand, Veterinary Hospital on the southern side, Myte, Lakkar Bazar on the northern side of the city specially in apple and potato season, the wholesale market for vegetables, fruits and grains is located in the commercial complex in the Lower Bazar and Cart Road, presents inherent shortcomings. This calls for proper assessment of problems related to the movement, such as Regional Transport System, Urban Circulation Pattern, Road Geometrics, Road Capacities and Inaccessibilities etc., so that the remedies could be evolved both in terms of short term as well as long term measures. Some steps in half hearted manners have already been initiated by the State Government in this direction by constructing Shogi-Dhalli bye-pass. On the basis of limited traffic data which included origin and destination survey and parking surveys, the main traffic problems of Simla can be summarised as under:—

3.3.1 Regional Traffic (Goods).—(1) The existing narrow width of the Cart Road which is the only arterial road in the town, used for vehicular traffic, is hardly sufficient for carrying the existing load as a result of which the entire stretch of the road passing through the central area of Simla remains extremely congested. The limited number of access points from the Cart Road aggravates the problems.

(2) Traffic is seasonal in character and the intensity is largely proportionate to the goods traffic generated as a result of movement of agricultural and timber produce viz. apple and potatoes. There is strong likelihood of these problems getting aggravated in the future due to phenomenal increase in agricultural produce which would require to be handled in the suburb of Simla.

(3) Trucks constitute a major proportion of vehicular traffic particularly during apple and potato season and require lot of parking space which presently is not available.

(4) There is acute shortage of storage and godown spaces as well as spaces for loading and un-loading resulting in the use of road for these purposes specially during peak season, thereby obstructing the normal movements of traffic on the Cart Road.

(5) Congestion on the Cart Road is more on the stretches connected to the Mall and Lower Bazar due to loading and un-loading activities.

(6) Short time parking demand is very high as compared to long term parking demand and so the parking problem becomes acute at peak hours only although it is for a short duration.

3.3.2 Regional Traffic (Passenger Buses).—There is also no proper bus and taxi terminus and the absence of suitable places for parking for buses and trucks compels the operators of these vehicles to part anywhere on the road. Even off street parking wherever possible, is not properly organised.

3.3.3 Through Traffic:—In the absence of infrastructural facilities on the Shogi-Sanjauli road, the through traffic passes through the city.

3.3.4 Regional Linkages.—‘Rail Linkage’ : Simla is an important terminus station on Kalka-Simla narrow gauge line which connects it with the important urban centres of the country. The existing rail system is by and large satisfactory.

(ii) **‘Road Linkages’ :** The National Highway No. 22 (Hindustan-Tibet Road) passes through the heart of the town. Simla, being the capital of the State, has satisfactory linkages with surrounding cities and towns. It is also well connected with the important cities of the country like Delhi through National Highway.

(iii) 'Air Linkages'.—At present Simla is served by a temporary helipad which exists at Annandale grounds. Sufficient space is proposed to be reserved for alternate site for landing of small aircrafts and helicopters so that it may be developed as an airport.

3.4 Public and Semi-Public Facilities/Services.—The Simla city being a summer seat of the Government of India in the past and Capital of Himachal Pradesh State presently is having the maximum concentration of Public Facilities right from its inception to date. The facilities existing in the city cater not only to the local needs but also to the regional/State level demands of the population.

3.4.1 Health.—The city has gained the status of regional health centre providing specialised medical treatment and facilities not only to the city population/adjoining districts but also meets the needs of the whole State. The city has five major Civil Hospitals out of which one is run by Mission and all other run by Government. Bed capacity of each as well as total is appended below:—

TABLE NO. 4
SIMLA—HEALTH FACILITIES

Sr. No.	General Hospitals	No. of Beds	Location
1	2	3	4
1.	H. P. State Hospital, Snowdon (Medical College Hospital).	408	Simla-171001 on Sanjauli Road.
2.	District Hospital Ripon	150	Near Bus stand in the Central Area.
3.	Lady Reading Hospital	104	Simla-171002
4.	Hospital & Sanitorium (Private Clinic run by Mission).	69	Simla-171004 (Chaura Maidan).
5.	Infectious Disease Hospital	50	Below Ghora Chowki.
	Total	772	

In addition to this, there is Walker Hospital which is exclusively meant for military personnel. There are about 12 (Twelve) Dispensaries scattered all over the area situated in the following localities:—

1. Chhota Simla.
2. Himachal Pradesh Secretariat.
3. Phagli.
4. Kasumpti.
5. Sanjauli.
6. A.V. Kaithu.
7. Boileaugunj.
8. Kennedy House.
9. Summer-Hill.
10. Bharari.
11. Lower Bazar.
12. Gurdwara Dispensary (Private).

There is also one Veterinary Hospital in the Town, where dispensing treatment is given to animals. Regarding Health facilities in the adjoining villages, there is a Primary Health Centre at Mashobra having bed capacity of 8 number. Apart from this, Ayurvedic Dispensaries as well as Civil Dispensaries are located at Shogi, Dhalli, Mashobra and Ghana-hatti. There is one Veterinary Dispensary at Ghana-hatti.

3.4.2 Education.—In comparison with other cities and districts of Himachal Pradesh, Simla is having maximum concentration of educational facilities. The city is receiving special attention of the Government since its inception in early 19th century. During the past, when this city grew as sanatorium and summer seat of Government, it attracted various Christian Missions, which started number of institutions/Public Schools. Later on, number of Government Schools came up which were originally augmented by the different Hindu religious bodies.

3.4.3 University.—Simla has a University imparting education at post-graduate level and extending facilities for academic research. The University meets the State level requirements. The University has acquired approximately 36 acres of land so far and plans to acquire additional approximately 170 acres of land for meeting ultimate requirement based on their Master Plan of the entire complex.

3.4.4 Special Institutions.—In the year 1965 as per desires of the President of India, Dr. S. Radha Krishnan, the Indian Institute of Advanced Studies was established and housed in the Rashtrapati Bhavan for carrying out research/studies in the field of social sciences and some aspects of natural sciences to the higher level intellectuals.

Apart from this, following research station/training centres in the field of administration, agriculture and forestry are functioning in the Simla Planning Area:—

1. Central Potato Research Institute.
2. Wheat Breeding Centre.
3. Indian Agricultural Research Institute, Research Centre.
4. Conifers Research Institute.
5. Himachal Pradesh Horticulture Research Centre, Mashobra.
6. Himachal Pradesh Institute of Public Administration, Mashobra.
7. Himachal Pradesh Institute imparting Training in Co-operation, Mashobra.
8. Himachal Pradesh Training Centre for Gram Sevak, Mashobra.

The town has four colleges imparting education in subjects of Art, Science and Law. There is one resident college for women known as St. Bede's College managed by Mission. There is one Government Medical College in the city, attached to the Snowdon Hospital, which imparts specialized education in the field of medicine and is affiliated with the Himachal Pradesh University. There are two Government Industrial Training Institutions one for men and another for women, which conducts under-graduate courses in the vocational trades.

3.4.5 Higher Secondary/High Schools.—The city has two Higher Secondary Schools, one for boys and another for girls. Apart from this, 11 numbers High Schools are functioning in the city and suburbs. Some Schools are having no playgrounds and some are in rented buildings. There are twelve numbers Middle Schools and thirteen Primary Schools. The analysis of Government aided schools, showing the institutions which need re-location is annexed as per Annexure-I. Apart from these, there are two Central schools, one located above Lakkar Bazar and other at Chhota Simla, which is exclusively for 'Tibetans'.

3.4.6 Public Schools.—Since, the Simla town in the past, being a summer seat of the then Government gained the importance as a Sanatorium attracted number of Christian Missions,

which started number of public schools mentioned below:—

1. Bishop Cotton School.
2. Auckland House School.
3. Loretto-Convent Tara Hall School.
4. Convent of Jesus and Mary.
5. St. Edward Hr. Sec. School.
6. St. Andrew's School (Situated at Chharabra).

3.4.7 Social and Cultural Institutions.—Simla city has inherited good tradition in social and cultural life. There are four halls to cater the social needs of the population attached to the Jain Dharamsala, S.D. School Hall, Ram Mandir Hall and Kali-bari apart from Municipal Committee Town Hall.

Regarding Libraries, there are three libraries viz., University Library, Himachal Pradesh Secretariat Library and Municipal Library on the Ridge and, a Reading Room at Ridge above the Tourist Information Centre. There is earnest need of Central Public Library because the first two libraries are restricted one *i.e.* not open to the general public use. The reading rooms are functioning in different areas being maintained by the Municipal Corporation.

3.4.8 Recreations.—(i) *City Parks.*—There are only two public parks in the city namely, Ladies Park and Daulat Singh Park. Apart from these, there are open spaces within the premises of Indian Institute of Advanced Studies. By proper identification, the new sites for parks can be developed. Unlike to the plains the wood lands/forest act as unorganised open spaces and walk-ways.

(ii) *Picnic Spots.*—The city is surrounded by a number of picnic spots. These spots within limits are as under:—

1. Jakhu Temple.
2. Glen.
3. Chadwick Fall.
4. Prospect Hill (Kamna Devi).
5. Tara Devi.

Apart from above-mentioned picnic spots, following spots are situated within 20 kilometre radius (approachable by vehicles):—

1. Kufri.
2. Naldehra.
3. Mashobra.

All these areas require proper landscaping and development.

(iii) *Play Grounds.*—The city has no public play ground except Annandale. It is under occupation of defence, which is utilised only when required. Certain games are conducted on the Ridge. Apart from this, some play grounds in the city are attached to the educational institutions and some tennis courts with the bungalows.

3.4.9 Water Supply.—The Simla water supply scheme was originally executed during 1975 by bringing water by gravity to serve a population of 16,000 souls. The water was collected from small streams and after rough filtration, was brought to slow sand filters beds at Dhalli, where it was finally treated.

Subsequently, the water supply was augmented during 1889 by tapping Cherot Nullah. Firstly, the water was pumped by steam pumps, which later on in 1914 were replaced by electrically driven centrifugal pumps. At present three pumps with a capacity of 18,000 gallons, 28,000 gallons and 33,000 gallons per hour are operating and two pumps run at a time, according to the availability of water from source. After rough filtration, the water is pumped from Cherot to 1,500 head to Dhalli slow sand filters for final treatment. At Dhalli rapid gravity filter bed of 1.8 MGD, thus made total capacity of 2.8 MGD.

To meet with the increased demand, Simla water supply scheme was further supplemented during 1914 by tapping 4,00,000 gallons of water per day from Chair source. At Chair the water treatment consists of sedimentation, flocculation, and filtration through mechanical pressure filters. The water from this source is pumped to a head of 3,300 (including losses) by two numbers electrically driven centrifugal pumps each having capacity of 8,000 gallons per hour.

During 1923-24, another water supply scheme was executed to meet enhanced requirements by tapping water from Nauti khad and was brought to 28,00,000 gallons capacity sedimentation tank through 13" i/d intake main.

From sedimentation tank, after addition of doses of alum and lime in chemical house, the water flows through post sedimentation tanks to rapid sand gravity filters. Here two numbers rapid sand gravity filters beds of 1.2 MGD capacity have been added to the existing 1.7 MGD rapid gravity filter bed and thus makes the total capacity of 3 MGD. The water is pumped through two 7" i/d seamless steel rising main by two reciprocating ram pumps (each 35,000 gallons per hour capacity) and one centrifugal pump (44,000 gallon per hour capacity) to height of 4,400' (incl. losses) at Craignano reservoir in single stage pumping from where the water comes to Sanjauli reservoir by gravitation.

Recently completed Jagroti pumping station made an addition of 0.6 MGD water to Simla water supply to cope with the increased demand.

The total quantity of water available from various sources explained in the preceding paragraphs is appended below:—

1. Gravity source	.. 0.05 MGD
2. Cherot Water Works	.. 0.25 MGD
3. Chair Water Works	.. 0.40 MGD
4. Gumor Water Works	.. 1.70 MGD
5. Jagroti Water Works	.. 0.60 MGD
	<hr/>
	3.00 MGD

The present water supply is not only inadequate to meet the needs of the people, but is also not dependable. The quantity of water available is 3.00 MGD (as given above) against the present demand of 5.5 MGD, which is quite insufficient.

The Jutogh Cantt. has its own water supply arrangement, which is being maintained by M.E.S.

3.4.10 Sewerage.—Simla is the only town in the State which has the privilege of having underground sewerage system from the early times. Due to the hilly terrain this sewerage consists of five disposal points covering their respective areas around the Simla Town. Brief details of the centres are given below:—

- (i) *Lalpani*.—The capacity of this disposal plant is about 2,26,500 gallons (septic tank). It is served by three main sewers, which run on southern slopes of Simla beginning

from above the Cart Road. It is observed that these sewer lines have a discharge of 5 gallons/sec. in the month of March to about 10 gallons/sec. in the month of May. The designed capacity of this plant is 22 gallons/sec. Keeping in view the enhanced needs, this serves only about 50% of this area.

- (ii) *Snowdon*.—Snowdon disposal centre comprised of a septic tank which has maximum designed capacity of 19,600 gallons. The sewer pipes are running to their full capacity as such and cannot take any further load. This disposal point serves 10% of the area of town under sewerage.
- (iii) *North Disposal Work*.—The capacity of septic tank of this disposal centre is 94,500 gallons and serves 15% of the area of the town under sewerage. Mainly, this centre serves the northern part of Simla namely Kaithu, Annandale, Elysium Hill and other surrounding areas. The major sewerage lines are 6" and 9" dia. Since, this has less discharge than the designed discharge, as such this can take the additional load.
- (iv) *Kasumpti*.—It has a capacity of 40,800 gallons and serves 15% of the area of the town under sewerage. Due to the rapid expansion and extension of town towards this side, it is almost running full and as such has reached to its optimum capacity, thus requires attention for augmentation.
- (v) *Summer Hill*.—The capacity of Summer Hill disposal system is 10,200 gallons, and serves 10% of the area of the town under sewerage. It comprises of two sewers.

Apart from this, certain areas of the main town are still lacking with the sanitary system such as Sanjauli, Boileaugunj and Totu. Beyond the town limits certain buildings are either provided with the respective septic tanks or have manual latrines or field latrines.

3.4.11 Storm Water Drainage.—There is no specific laid out drainage system except on the southern side carrying water and sullage of central area. The water as well as sullage is carried by the road side drains/natural drains which are formed by the topographical features of Simla. Flooding is caused at places by narrow channels and silting of nullahs, which overflow especially during rainy season. Certain areas have erosion of soils along the nullahs as well as sinking of land.

3.4.12 Electricity.—This service is being looked after as well as maintained by the Himachal Pradesh State Electricity Board. The sources of the electricity are Nangal, Chaba and Simla, a Diesel Power Station. The Simla Power Station usually acts as a stand by, as such it serves only as and when required. Approximate monthly supply from the different sources are given as under:—

1. Nangal	.. 13,81,380 Kwh.
2. Chaba	.. 10,64,237 Kwh.
3. Simla Diesel Power Station	.. 4,177 Kwh. (as and when required).

At present all the parts of the town as well as the adjoining villages are covered by the electric net work. The town is served by the street light lamps numbering 2532 (Lamps FT & MVI) spreading all over Simla. There are 75-sub-stations in the town as well as in adjoining villages at various sites. There are 21,357 household connections. There is no dearth of power, only the present network is not able to take more load. The monthly consumption of electricity under various heads are as follows:—

1. Domestic purposes	.. 4,88,189 Kwh.
2. Industrial Connections	.. 40,630 Kwh.
3. Pumping and Sewerage	.. 7,31,450 Kwh.
4. Public Lighting	.. 23,860 Kwh.
5. Total Units sold	.. 16,36,041 Kwh.

3.4.13 Other Amenities.—(i) *Post and Telegraph Offices/Telephone Exchange.*—The city as well as surrounding area is served by 22 Post Offices and 33 Branch Post Offices located in various localities and villages. General Post Office is located on The Mall. Central Telegraph Office is also located near General Post Office in the same building of Telephone Exchange. The Exchange operates about 3,040 connections. (It has S.T.D. facilities for Chandigarh, Delhi, Ambala, Amritsar and Jullundur. The S.T.D. for Mandi is going to come up by March 1979 for which the work is in progress).

(ii) *Police Station.*—Simla is served by four Police Stations viz. Sadar Police Station near Vegetable Market, Chhota Simla Police Station, Boileaugunj Police Station and Dhalli Police Station. Besides, there are four Police Posts located in Lakkar Bazar, Sanjauli, Jutogh and Kasumpti. For the assistance of tourists and public, Police Assistance Post is located on the Mall adjoining Gaiety Theatre.

(iii) *Fire Station.*—Fire Service is manned by the Himachal Pradesh Government. There is Central Fire Station located on the Mall. There are two other fire stations located in Boileaugunj and Chhota Simla, near Himachal Bhavan. There is one sub-station manned by single person is located within the Gorton Castle Building. There are about 1,400 fire hydrant points scattered all over the city. There is no separate supply for fire fighting, it is connected with the water supply. Hence due to short supply, the supply is opened as and when required only. One Fire Station manned by Defence is located in the Central Area.

(iv) *Cremation Ground and Burial Grounds.*—There are number of cremation grounds, cemeteries and grave-yards scattered around the town are mentioned below:

<i>Cremation Ground, Grave-yards and Cemetery</i>	<i>Location</i>
1. Hindu Cremation Ground	.. Sanjauli.
2. Grave-yard	.. Above Tunnel at Village Dhingu.
3. Cemetery	.. Near Shail Kunj below the Mall.
4. Cemetery	.. Near St. Bede's on NH-22.
5. Cemetery	.. Near C.P.R.I. Kanlog.
6. Grave-yard	.. Near Barrier.
7. Cremation Ground	.. Near Annandale Ground.
8. Cremation Ground	.. Below Tuti-kandi.
9. Cremation Ground	.. Near Kasumpti.
10. Cremation Ground	.. Summer Hill.

(v) *Dhobi Ghat.*—The town is served with a number of Dhobi Ghats, the same are mentioned below:

1. Lalpani.
2. Below Bishop Cotton School near village Anji.
3. Chhota Simla near Majitha House.
4. Near Annandale Ground.

CHAPTER IV

DEMOGRAPHIC CHARACTERISTICS OF SIMLA

4.1 Introduction.—The development of a particular city, town or a region depends upon natural, physical and economic factors. The natural resources and the physical set up apparently have a great impact on future possible development of the area. Among economic factors man power assumes significance in determining the future impact of the whole gamut of activities related to development. Population statistics are the oldest of all statistics collected by all nations

for their defence needs. To-day, these statistics serve a different purpose. They focus attention on various socio-economic problems of the nations and help in the formulation of suitable policies.

Population growth affects the fundamentals of economic growth very significantly; as it forms one of the basic variables in any model of planned development. A rapid growth of population not only lowers the capacity of available facilities, but also increases the demand for more facilities to be provided to cater the needs of the increasing population. Population thus forms the core of all human problems and it needs close and prompt attention to facilitate planned development of towns, cities and regions, and also the social and economic welfare of the people on the whole.

Estimation of future population, which a town, city or a region will hold at a particular stage in time during the foreseeable future, is one of the foremost steps in the preparation of a Development Plan for the area. Along with population forecast, an insight into the various demographic characteristics *viz.* age and sex break-up, working force and occupational structure, literacy rate, religious and cultural traits etc. becomes essential, as all planning decisions have to take full note of the individual and collective impact of these demographic factors on the growth and development of the area concerned.

Population projections are always beset with difficulties, more so in the context of a hill-town like Simla where population growth and variation during the last few decades has not maintained an uniform trend owing the various natural as well as political factors. The time period of Census operations in such a case has also its own impact on the Census population figures as bulk of the resident population of the town moves down to the plains during the winter months on one hand and the non-resident tourist population moves in from the plains in substantial number during the tourist season, which in the case of Simla extends from April-May to October-November. In such a situation reliance cannot be given solely to mathematical projection of the population statistics as revealed by the Census, but the local estimates of present population gathered from various authentic sources will also have to be taken full note of, in projecting future population of the urban area. Further, an objective analysis of the various growth forces of the town will also have to be made before arriving at any realistic estimate of future population. An attempt has been made in this chapter to make such an objective analysis for Simla within the limitations of available data, which is rather meagre, to arrive at a tentative estimate of population of the Simla Planning Area upto the year 2001 for the purposes of preparing a Development Plan for channelising future developments.

Simla city has some peculiar characteristics which place this city in an altogether different and un-parallel situation. From tourism point of view, Simla comes on the international map of tourism. It is the capital city of the State and metropolis of Simla region, apart from its regional commercial nature, national educational centre and health resort for the retired life. All these points need consideration in population projection and for laying city infrastructure. Besides this, when a development plan is implemented, this invites more in migration in the shape of labourers for city construction, increased employment for servicing and maintaining the city infrastructure like schools, health centre etc.

4.2 Population and Development.—Development and population are wedded to each other. The development of a particular region, city or town depends upon regional economic characters such as resource endowment climatological factors and other infrastructural facilities etc. To achieve the developmental objective of a particular region, population plays an important role. In most of the development plan, population criterion is taken as the only indicator to channelize the resources. Thus from the planning point of view, population is the core of all human activities.

The growth of the population of a particular region, city or town depends upon a number of factors such as demographic, social, cultural, economic and political, natural resources, climatological conditions etc. Among the above cited factors, demographic factors are strategically important for the study in question.

For planning the urban infrastructure of a town, population is the main factor to be considered. This chapter broadly deals with the following aspects:—

- (i) From Historical point of view .. (Population growth and variations).
- (ii) From Planning point of view .. (Population projection or estimation).

Historically, Simla has its origin by the name of 'SHAMLA' which means a blue female and may be another name for the goddess Kali. Simla is the creation of British Regime and it became the formal seat of summer capital of the Government of India in 1864. After that in 1947, as a result of partition, the East Punjab Government made it their capital and this was continuing till the capital was shifted to Chandigarh. Upto that time Simla remained as a Summer Capital, but later on with the emergence of Himachal Pradesh as an 'Union territory' Simla became its capital beyond its own territory, for whole of the year. This practice continued upto the emergence of Himachal Pradesh as a full-fledged State. Besides this, Simla is an important educational centre which attracts students not only from adjoining areas and various parts of India but also from some foreign countries. Simla being focal hill town has also its importance in the economy of the State from tourism point of view. From commercial point of view, Simla is gaining importance day by day.

4.2.1 Past and Present Population of Simla Town.—On the basis of population, Simla is classified as Class-II Town, recording a population of 55,326 as per 1971 Census. The population of this town increased from 13,960 in 1901 to 55,326 in 1971 (Table No. 1). This table also indicates curvilinear trend in the population growth from 1901 to 1971 in 1971 is 296% that of 1901, whereas in 1931, it was 29%. However, the growth trend from 1901 to 1921 was smooth, but during the decade 1921—31, the trend was negative mainly due to natural calamities such as depression, epidemics etc. Similarly during the decade 1941—51, there was a significant rise in population growth which was mainly because the capital of the Punjab State was shifted to Simla after the partition of the country. Again a decline was registered in 1951—61 because the capital of Punjab was re-shifted to Chandigarh. However, the decade 1961—71 recorded a positive increase. The previous trend is not going to be stabilized but is likely to get high speed because of the increasing functions of the city in the nature of administrative, commercial and tourism.

TABLE NO. (1)
POPULATION AND ITS INDEX NUMBER

Year	Person	Index Number
1901 (base year) ..	13,960	(100.00)
1911 ..	19,405	(139.00)
1921 ..	27,213	(194.00)
1931 ..	18,144	(129.00) (decrease)
1941 ..	18,348	(131.00)
1951 ..	46,150	(330.00)
1961 ..	42,597	(305.00) (decrease)
1971 ..	55,326	(396.00)

4.2.2 Age and Sex Structure.—Age/sex structure for Simla Town is given in Table (2). The sex ratio in Simla Town was only 593 as per 1961 Census. However, it has gone up to 666 as per 1971 Census. Even then sex ratio is low in comparison to other urban centres of India. This is due to the large number of low paid workers and Government employees who have migrated merely for service, leaving their families at home. The number of males in the working age group (16—59 years) constituted 44.0% of the total population in 1961. Number of females in the same

age group comes to only 20.5%. Only 2.0% of the total population falls in the age group of 60 years and above. In 1971 dependency ratio is reported to be quite low because 64.2% of the total population is stated to be in the working age group (Table-2). This is also attributable to the low paid workers and the service class who mostly keep their families in their native places.

Table (3) shows the age/sex structure for Simla Planning Area. The 1971 Census has reported 64% as working force (i.e. 49,320). Among them 41.97% are reported as males and 22.03% females. This shows that male participation ratio is higher than that of females.

TABLE NO. (2)
AGE-SEX STRUCTURE—1971 SIMLA TOWN

Age groups		Persons	Males	Females
0—4	..	5,920	2,868	3,052
5—9	..	7,192	3,462	3,730
10—14	..	5,588	2,817	2,771
15—19	..	5,034	2,768	2,266
20—24	..	6,584	4,253	2,331
25—34	..	11,785	7,690	4,095
35—44	..	7,470	5,245	2,225
45—59	..	4,647	3,334	1,313
60 and above	..	1,106	764	342
Total	..	55,326	33,196	22,130

TABLE NO. (3)
SIMLA PLANNING AREA—AGE-SEX STRUCTURE—1971

Age groups		Persons	Males	Females
0—4	..	8,489	4,113	4,376
5—9	..	10,032	4,829	5,203
10—14	..	7,717	3,890	3,827
15—19	..	6,945	3,819	3,126
20—24	..	9,261	5,938	3,278
25—34	..	16,206	10,576	5,630
35—44	..	10,804	7,568	3,218
45—59	..	6,174	4,429	1,745
60 and above	..	1,543	1,066	477
Total	..	77,171	45,185	31,986

4.3 Methodology of Estimation of Population for Simla Town.—Population estimates are generally made for a period of twenty or thirty years to serve the purpose of short term as well as long term planning. Estimates are often subject to revision with the passage of time, according to the past trend of population variations. Past trend of population growth may be a good guide for the estimation of future population in some cases, especially for a big region or a country which can be more or less considered as a closed system. For some towns whose growth during the past few decades has more or less followed a set pattern, this method may be adopted with advantage as such towns are not expected to undergo any appreciable change in its functions quantitatively or qualitatively.

4.3.1 Limitations of the Study.—There are some peculiar problems in estimating the future population of Simla Town and when the analysis of the available records is done, the investigators have to face some limitations.

One of the most important limitations in estimating the future population is lack of staff and time for collection of primary and secondary data, and the department has to rely on meagre secondary data. Some more information from primary sources could be of great help to the study, yet it could not be done due to the above-mentioned limitation. Though, the department conducts surveys to get the reliable information, but for the present study, information is mainly taken from secondary sources.

Among the secondary sources, census figures have assumed an important place. But census figures for Simla Town are adjudged to be lower than the actual population figures of the town. As ascertained from local authentic sources, a large proportion of resident population remains in warmer plains away from the severe cold during winter. The educational institutes also remain closed during census operation on account of which a large number of students and teachers are not able to be enumerated. For purposes of planning, these people, who escape being enumerated as resident of Simla Town in census, should obviously be taken into account, as they stay in the town for major period of the year *i.e.* for about nine months. Considering the population figures available from the survey of Simla Town carried out by this department in collaboration with the School of Planning and Architecture, New Delhi, the additional population in Simla Town, apart from census figures can be taken as 24,674 for 1971.

Accordingly, total resident population of Simla Town comes out to 65,000 for 1971 and this has been adopted for future projection for the preparation of this Development Plan.

Taking into consideration various limitations, population projection for Simla becomes tedious. In conducting this study, an intensive study of the available secondary sources was taken up and the richness of the available literature stood exploded at this stage because estimates derived in the literature were not correct, due to the aforesaid limitations.

Population of Simla Town (Municipal Area) was 55,326 as recorded by the 1971 Census. The population of the town had thus increased from 42,597 in 1961 to 55,326 in 1971 registering a growth rate of 29.8% during the decade. The population variations of Simla Town from 1901 to 1971 appears in Table No. (4).

TABLE NO. (4)
POPULATION OF SIMLA TOWN AND VARIATION

Year	Persons	Decadal variation	% age decadal variations
1901	.. 13,960	—	—
1911	.. 19,405	+5,445	+39.00
1921	.. 27,213	+7,808	+40.24
1931	.. 18,144	—9,069	—33.33
1941	.. 18,348	+204	+1.12
1951	.. 46,150	+27,802	+151.53
1961	.. 42,597	—3,553	—7.70
1971	.. 55,326	+12,729	29.8

4.3.2 Estimate of Future Resident Population of Simla.—Population projection of Simla Planning Area has been attempted by the following three methods. By taking the mean of the projections obtained by three methods, the mean value of the population has thus been obtained;

METHODS:*

1. Compound Interest method;
2. Binomial expansion method;
3. Conversion factor method.

The future population projections can be attempted in two ways:—

- (1) by taking the base year population at 55,326 and the growth rate of population at 29.8%.
- (2) by changing the base year population from 55,326 to 65,000 and growth rate of population from 29.8% to 40% for the years 1971-81 and 30% for 2001.

POPULATION PROJECTION BASED ON PAST TREND OF POPULATION GROWTH AND THE BASE YEAR POPULATION OF 55,326

1. Projection based on compound interest method:

Formula:*

$$P_x = P \left(1 + \frac{R}{100} \right)^t$$

*ERPDO—TCPD—Government of Punjab “Integrated City Development Programme” (1974-79) Ludhiana Project Report.

where P_x is the population for any year, P is the population for the decade preceding

the decade whose population is required and R is the yearly rate of increase in a decade in per cent.

If the figures of table (4) are accepted, the growth rate in a decade comes to be 29.8% from 1961 to 1971. This shows that the population during the year 1981, 1991 and 2001 will increase at least by 29.8%. If the population increases at the rate of 29.8% in a decade, the population of Simla Town in 1981 will be 71,815 and in 1991 it will be 93,216 and in 2001 it will be 1,20,994 [as shown in the Table No. (5) mentioned below]. It clearly shows that in Simla Town alone, population will be more than double by 2001.

TABLE NO. (5)

Year	Persons	Decadal variation	percent age decade variations
1971	55,326	—	—
1981	71,815	16,489	29.8
1991	93,216	21,401	29.8
2001	1,20,994	27,778	29.8

2. Projection by Binomial Expansion Method:

Formula: * $A_0^3 = Y_3 - 3Y_2 + 3Y_1 - Y_0$

Since the known census data are there i.e. from 1951 to 1971.

So the third leading difference will be zero.

Where A_0^3 is zero, Y_3 = Population for 1981, Y_2 = Pop. for 1971, Y_1 = Pop. for 1961 and Y_0 = Pop. for 1951.

Substituting the values in equation we get: $Y_3 - 3Y_2 + 3Y_1 - Y_0$

$$= 3(55326) - 3(42597) + 46150 = 165978 - 127791 + 46150 = 84337.$$

So the pop. for 1981 comes out to be 84337.

Again now the figures are 1981, 1971 and 1961:

$$A_0^3 = Y_4 - 3Y_3 + 3Y_2 - Y_1$$

Where Y_4 = Pop. 1991
 Y_3 = Prop. 1981
 Y_2 = Pop. 1971
 Y_1 = Pop. 1961

$$\therefore Y_4 = 3Y_3 - 3Y_2 + Y_1$$

*ERPDO—TCPD—Government of Punjab “Integrated City Development Programme” (1974-79) Ludhiana Project Report.

Substituting the value we get

$$Y_3 = 3 (84337) - 3 (55326) + 42597 = 253011 - 165978 + 42597 = 1,29,630$$

So the projected population for 1991 = 1,29,630:

$$\text{Similarly } A_{03} = Y_5 - 3Y_4 + 3Y_3 - Y_2$$

$$\text{or } Y_5 = 3Y_4 - 3Y_3 + Y_2$$

$$= 3 (129630) - 3 (84337) + 55326 = 388890 - 253011 + 55326 = 1,91,205$$

The Population for 2001 is 1,91,205.

3. Projection by conversion factor method:

$$\text{Formula: } * = P_{81} = \frac{(P)^2_{71}}{P_{61}}$$

where P_{81} = Pop. for 1981

P_{71} = Pop. for 1971 P_{61} = Pop. for 1961

Substituting the values of P_{71} and P_{61} we get.

$$P_{81} = \frac{(55326)^2}{42597} = 71,859.$$

So the population of 2 1981 comes out to be 71,859.

$$\text{Similarly } P_{91} = \frac{P_{81}^2}{P_{71}}$$

$$\text{i.e. } P_{91} = \frac{(71856)^2}{55326} = 93,333.$$

Therefore population of 1991 = 93,333.

$$\text{Similarly } P = \frac{P_{91}^2 - (93,333)^2}{2001 P_{81} - 71,859} = 1,21,225.$$

The mean value of the three methods are given as below:—

Mean value by	Year, 1981	Year, 1991	Year, 2001
Compound Interest Method	.. 71,815	93,216	1,20,994
Binomisal Expension method	.. 84,337	1,29,630	1,91,205
Conversion Factor Method	.. 71,859	93,333	1,21,225
Total of three methods	.. 2,28,001	3,16,179	4,33,424
Mean value i.e. Projected Population	.. 76,004	1,05,393	1,44,474
	.. For 1981	For 1991	For 2001

By Changing the base Year population and the population growth rate 5 :

The population of Simla City on assuming new functions, and is likely to increase at a higher rates for a variety of reasons.

One such reason is that Himachal Pradesh, to day is one of the least industrialised States in the country and since independence, people in this state could not enjoy the fruits of industrial developments that took place in other parts of the country. But now, it has to come forward and it appears that due to the development of Horticulture, Agriculture, Industries, Forestry and other infrastructural facilities, Himachal Pradesh, would be ranked among the developed states of the country and it is an admitted fact that with the process of development, the proportion

of rural population in the total population falls or with process of development rural people migrate to the urban areas and so the urbanisation takes place. Simla being metropolis, the population in this city is likely to increase as a result of higher migration from the country areas due to the greater impact of socio-economic changes which are bound to take place in the city region.

Further more, as Horticulture has assumed an important role in the economic development of the State, and has also helped a lot in increasing the income of people in the Pradesh, this would invariably affect the population in this city. As the income of the people, now living in villages, will go up in future with the development of horticulture, industry, forestry and agriculture, so the 'aspiration level' of the people will also rise.

Once the basic needs of rural poors for food, cloth and shelter are satisfied, they would like to have higher standard of living by migrating from the farms to the Urban Centres. This is a natural phenomena faced in all developing countries. However, the trend changes, when a country reaches the last stage of development. This State can not, therefore, be an exception and higher rural urban migration is likely to be experienced in the near future which needs to be taken cognisance.

The country population is growing inspite of family welfare programmes and as a result of various physical thresholds operating quickly in this semi-alpine State, the people migrate in search of alternative employment and Simla being the Capital City of the Pradesh, will not remain unaffected by such migration. Population in Simla City will also increase due to natural growth. Apart from these, the people from rural areas also migrates to urban areas to find gainful employment and for better living environmental standard.

Out of the above analysis, the following conclusions are drawn:—

- (1) Past growth rate of population in Simla Town is 29.8%.
- (2) With the process of development, the rural population migrates to urban centres especially to this metropolis.
- (3) Horticultural, Industrial, Agricultural and Forestry Development in the State would increase the rural-urban migration trend.
- (4) Education facilities and Employment opportunities in Simla-like towns would remain a cause of attraction for population migration.

Apart from these factors, the most important factor to determine the size of future population of Simla Town is the correct estimation of base year population. The 1971 census population of 55,326 souls can not, however, be taken as correct base population. As pointed out in the limitations of the study, the resident population of this town shifts to warmer regions during winter months when the census operation takes place.

Examining the above factor of change in the base year population, it is implied that once the base is changed, the whole projection will also change. Therefore, two broad points emerge:—

- (1) Increase in the base year population to 65,000.
- (2) Increase in the growth rate of population to 40% and declining trend at later stage.

Past trends of population growth of Simla have not been steady but have experienced a great deal of fluctuations in several decades [Refer Table No. 4]. The average growth rate of several decades upto 1971 assumed a very low figures in comparison with the current growth trend. While the average annual geometric growth rate of population between 1941—71 for Simla works out to only 3.75% per year, the current growth rate as adjudged from the survey conducted by the Himachal Pradesh Town Planning Department and the demands made for municipal services in Simla Town is estimated to be between 8 to 10 per cent per year. Obviously

in the context of Simla, past trends of population growth can not be taken as the sole criterion for projecting its future population and an objective analysis of the impact of various activities which will converge to Simla owing to its emerging importance will need to be made before a realistic estimate can be arrived at. With the attainment of Statehood by Himachal Pradesh on 26th January, 1971, Simla Town which is the capital of the State will be the focus of new Governmental, semi-public and private activities during the coming decades. More Government offices, educational institutions, research and culturable organisations and other private institutions are likely to get established in Simla as an obvious corollary to its legitimate functions as a State capital. The various development projects for the State related to industry, trade and commerce, transport and tourism will invariably lead to the establishment of many new institutions in Simla Town directed at co-ordinating and promoting such activities in the State. All these are likely to add a large number of persons in the present working force of the Town and hence will result in a rapid growth of population due to immigration as well as natural growth.

Between 1961 and 1971 the population of Simla Town increased by 29.8%. Accordingly keeping in view the growth rate of 1961-71, it can be safely assumed that the population of Simla Town may increase by 40% during the year 1971-1981 and 1981-1991 and by 30% for the decade 1991-2001. Due to the unrealistic estimates of 1971 census, the base year population can safely be assumed to be 65,000. On these assumptions, population for 1981, 1991 and 2001 are projected.

PROJECTION OF POPULATION BY CHANGING THE BASE YEAR POPULATION AND GROWTH RATE

	Year	Population
Base Year	1951	51,573
Population	1961	47,601
	1971	65,000

1. Compound Interest Method:

Formula:
$$P_x = P \left(1 + \frac{R}{100}\right)^t$$

The projection of population based on the above formula appears in Table No. (6).

TABLE NO. (6)

Year	Base Year Population	29.8% past pop. growth rate	10.2% growth for years 1981 and 1991	0.2% growth for year 2001	Total
1971	65,000	—	—	—	=65,000
1981	65,000	+19,370	+6,630	—	=91,000
1991	91,000	+27,118	+9,282	—	=1,27,400
2001	1,27,400	37,965	—	+255	=1,65,620

The rate of growth is expected to be reduced in the long run as a result of family welfare programme and also as a result of intensive employment oriented infrastructure available in the country side for which the Government is doing all possible efforts. On these considerations, it may be assumed that the population of Simla Town may increase at a lower rate of 30% between 1991 and 2001.

Urban population projections for Himachal Pradesh as available from the Report on the Population Projections worked out under the guidance of the 'Expert Committee' set up by the Planning Commission under the Chairmanship of the "Registrar General, India" for the year 1976 and 1981 have shown an increase in the urban population growth rate for the decade 1961-71

to 36% for the decade 1971-81. The Committee has also assumed stabilisation in the growth rate after 1981 in the urban areas of this State.

2. Binomial Expansion Method:

Since the estimated figures are there for 1951, 61 and 1971;

So the third leading difference will be zero.

$$\Delta^3 A_0^3 = Y_3 - 3Y_2 + 3Y_1 - Y_0.$$

When A_0^3 is zero $Y_3 = \text{Pop. for 1981}$

$Y_2 = \text{Pop. for 1971}$

$Y_1 = \text{Pop. for 1961}$

$Y_0 = \text{Pop. for 1951.}$

$$\text{or } Y_3 = 3Y_2 - 3Y_1 + Y_0$$

Substituting the values we get ;

$$Y_3 = 3(6500) - 3(47602) + 51573 = 1,95,000 - 1,42,806 + 51573 = 1,03,767$$

So the population for 1981 comes out to be 1,03,767

Again now figures are 1981, 1971 and 1961 :

$$A_0^3 = Y_4 - 3Y_3 + 3Y_2 - Y_1$$

$Y_4 = \text{Pop. for 1991}$

$Y_3 = \text{Pop. for 1981}$

$Y_2 = \text{Pop. for 1971}$

$Y_1 = \text{Pop. for 1961}$

$$Y_4 = 3Y_3 - 3Y_2 + Y_1$$

$$= 3(103767) - 3(65000) - 47602 = 3,11,301 - 1,95,000 + 47,602 = 1,63,903$$

So the projected population for 1991 = 1,63,903

$$\text{Similarly: } A_0^3 = Y_5 - 3Y_4 + 3Y_3 - Y_2$$

Where $Y_5 = \text{Pop. for 2001}$

$$\text{or } Y_5 = 3Y_4 - 3Y_3 + Y_2$$

$$= 3(163903) - 3(103767) + 65,000 = 4,91,709 - 3,11,301 + 65,000 = 2,45,408$$

3. Projection by factor conversion method :

$$\text{Formula } \frac{P}{81} = \frac{(P)^2}{61}$$

Where $\frac{P}{81} = \text{Pop. 1981}$

$\frac{P}{71} = \text{Pop. for 1971}$

$\frac{P}{61} = \text{Pop. for 1961}$

Substituting the values of $\frac{P}{71}$ & $\frac{P}{61}$ we get

$$\frac{P}{81} = \frac{(65000)^2}{47602} = 88,757.$$

So population of 1981 comes out to be 88,757.

$$\text{Similarly } \frac{P}{91} = \frac{(81)}{P} \text{ i.e. } \frac{P}{91} = \frac{(88757)^2}{65000} = 1,21,194$$

Therefore Pop. of 1991 = 1,21,194

$$\text{Similarly: } \frac{P}{2001} = \frac{\frac{P^2}{(91)}}{P} = \frac{(1,21,194)^2}{88757} = 1,65,485$$

The population of 2001 is 1,65,485.

The mean value of the above given three methods are presented in Table No. (7) given below:—

TABLE No. (7)

Mean value by		Year 1981	Year 1991	Year 2001
1. Compound Interest Method	..	91,000	1,27,400	1,65,620
2. Binomial Expansion Method	..	1,03,767	1,63,903	2,45,408
3. Conversion Factor Method	..	88,757	1,21,194	1,65,485
Total of three methods	..	2,83,524	4,12,497	5,76,513
Mean value <i>i. e.</i> projected population	..	94,508	1,37,499	1,92,171

4.4 Effects of Natural Growth rate and Immigrants on Total Population.—The total population as projected will be 91,000 1,27,400 and 1,65,620 (as shown by compound interest method) during the years 1981, 1991 and 2001 respectively. But this growth rate will not only be affected by the natural growth of population (Birth rate—Death Rate), but also will be influenced by the immigrants from rural areas. Technically speaking, future population growth is a function of natural growth rate of population and immigrants from rural areas, assuming other things to remain constant.

$$P = f(P_n, I_r)$$

where: P_f : Future population of Simla Town.
 P_n : Natural Population Growth.
 I_r : Immigrants from Rural Areas.

Simla being an urban area, and Capital City of the State, having higher literacy rate and better standards of living, the birth rate in near future will increase slowly, because an educated person would not like to have a large size family irrespective of the family welfare programme. No doubt, death rate will also fall with improvement in level of living in the near future, but birth rate effect will be more powerful on the population growth because population changes in geometrical progression (G.P.). As the estimated decadal population growth rate is about 25% for the Pradesh, the natural population growth will be less in Simla Urban Area than the natural population growth of the Pradesh because of higher literacy rate and better levels of living as already discussed.

Thus the migration from rural areas to Simla Urban Area will affect the future population growth to a greater extent. On the basis of assumptions already taken in this chapter, projected population may increase at the rate of 40% during the decade 1971-1981 and by 30% during the decade 1981-2001.

Due to the aforesaid factors, like fall in the Birth rate and migration from rural areas, the share of natural growth rate will fall because of the fall in Birth Rate and, therefore, it is estimated that the natural growth rate would be only 22% during the decade 1981-1991, but the remaining 18% will be contributed by immigrants from rural areas. Total population will show a declining trend at later stages and is likely to grow at the rate of 30% during the decade 1991-2001. Birth Rate in the long run will keep on falling and it can safely be assumed that out of 30% growth

rate for the decade 1991 2001, natural growth rate may contribute 18% increase in the population and the remaining 12% will be determined by the immigrants from rural areas. The population growth projections are shown in the Table No. (8):

TABLE NO. (8)

Year	Base year Population	Natural Growth Rate.	Natural Growth in Pop.	Growth Rate of Immigrants.	Growth of Population (Immigrants)	Total
1971	65,000	—	—	—	—	65,000
1981	65,000	22%	14,300	18%	11,700	91,000
1991	91,000	22%	20,020	18%	16,380	1,27,400
2001	127,400	18%	22,932	12%	15,288	1,65,620

4.5 Population Estimation: Adjoining Settlements.—Consequent to the inevitable physical expansion of Simla Town during the coming decades in order to accommodate the projected population and related activities, a few small towns and a number of village settlements lying close to the present Simla Town will also be engulfed in the future urban area of Simla. Their existings as well as projected population will also need to be taken care of in ascertaining the total land requirements for various activities for the future. The present and the future population projection of the various settlements which will form eventually part of Simla town also needs a judicious forecast.

As these towns and village settlements lie in close proximity of Simla town and have intimate interaction with it, their future population estimates will also follow by and large, the pattern envisaged for the main town. The Simla urban region, has 210 settlements incorporated with it and in addition to this, settlements of Junga and Baladad along with 20 very small villages around them, with a total 1961 population of 1320 have also been incorporated in the Simla Urban Region giving a total population of 60,836 in 1961. But to project the population of these adjoining settlements, population of Simla Municipal Area has been subtracted from the total population given in the list annexed to this report and the remaining figure would form the population in adjoining areas.

The total population of the Simla Urban Region including the adjoining settlement as given by the 1961 Census was 59,516 which includes the population of Simla Municipal Area which was 42,597 in 1961. Therefore, after subtracting 42,597 population of Simla Municipal Area, we can have the population of adjoining settlements, which comes out to be 16,919 in 1961 as shown in the Table No. (9).

TABLE NO. (9)

POPULATION OF ADJOINING SETTLEMENTS (YEAR 1961)

Sr. No.	Area	Population
1.	Simla Urban Area	59,517
2.	Simla Municipal Area	42,597
3.	Adjoining Settlements (3=2-1)	16,919
4.	Junga and Baladad along with 20 very small villages	1,320
Total		18,239

In addition to these census figures of 1961, we have also incorporated the settlements of Junga and Baladad along with twenty very small villages around them with a total population of 1,320 in the Simla Urban Region giving total 1961 population of 18,239. [Refer Table No. (9)].

Similarly the figures available for the year 1971 shows that the population of adjoining area was 21,845 and after including the population of settlement of Junga and Baldad and other twenty very small villages, the total population comes out to be 23,549. So on the basis of available figures, we can project the future population of these settlements. This gives 29.11% growth rate in the population. On the basis of this trend, the future population can be projected. This projected population appears in table No. (10).

TABLE NO. (10)

Year	Population	Decadal variations	% age decadal variations.
1961	18,239	—	—
1971	23,549	5,310	29.11
1981	30,404	6,855	29.11
1991	39,255	8,851	29.11
2001	50,682	11,427	29.11

The above figures shows that population in 1981 will be 30,404 with growth rate of 29.11%. Following this growth rate, the population in 1991 & 2001 will be 39,255 & 50,682 respectively at the constant growth rate.

4.6. Population for 1979 for Development Plan.—The population estimates for the year 1979 would serve as base population for the preparation of Development Plan for Simla Planning Area. On the basis of the assumption already taken in this chapter, the population estimation for the year 1979 are shown in Table No. (11).

TABLE NO. (11)

Year	Population of Simla Town	Population of adjoining settlements	Floating population	Gross population.
1971	65,000	23,549	20,000	1,08,549
1979	85,800	29,036	36,000	1,50,836

(Base Year Population is 65,000)

4.7 Estimation of Floating Population.—For the purpose of planning realistic estimates of population of Simla, it is imperative to include the 'Floating Population, besides the normal resident population as estimated earlier. If this is not done, there is a risk of falling into serious errors while formulating development proposals. Simla is very important tourist resort of India and it has an important position on the International tourist map and is visited by a large numbers of tourists during summer as well as during winter. The Tourism Development Corporation of Himachal Pradesh has estimated, through a survey conducted during 1967, the peak summer months tourists influx as 3,500 per day. The tourists traffic has been showing a remarkable increase ever since. The Himachal Pradesh, T.C.P.O. Survey has estimated average 20,000 tourists visiting Simla per day during the peak turist seasons in 1971. This forms approximately 30% of the total resident population of the town as shown by 1971 Census.

Although an exact date of year to year growth of tourist traffic is not available, yet the following table gives the number of voluntary registration of names at Tourist Information Centre, Simla from 1960-61 to 1970-71 and from this, a trend of tourist traffic to Simla can be derived for future projections:—

TABLE NO. (12)

TOURIST TRAFFIC TO SIMLA

Year	Number	Variation	% Variation	Remarks
1966—67	22,519	—	—	—
1967—68	27,215	4,696	+20.85	—
1968—69	16,501	—10,714	—39.36	Government Employees Strike in H. P.
1969—70	46,542	+30,041	+182.05	—
1970—71	18,823	—27,719	—59.55	Early and Heavy Monsoon at Simla.

The data given in the above table, however, does not, give a correct idea of the total number of tourists visiting Simla. It is well known that many tourists do not register themselves while other stay with their relatives. However, these figures fairly give an idea about the growth in the number of tourist visiting Simla over the past few years.

Information from Tourism Development Corporation reveals that 2,53,620 tourists visited Simla during the year 1976-77. Similarly a survey was conducted by the Directorate of Economic and Statistics, according to which 35,504 tourists visited Simla in a period of 15 days that is from 23rd May, 1977 to 5th June, 1977. Therefore, considering 1966-67, 1969-70 and 1967-68 as normal years, it is assumed that tourists traffic to Simla will increase at a faster rate in the near future.

A study conducted by the Industrial Development Bank of India, reveals that the natural scenic beauty of Himalayan ranges and the bracing climate of the State offers ample opportunities for the development of tourism. This therefore, provides potentials for the development of hotel industry. It is not correct to assume summer season as the only season for tourist traffic. The trend is changing very fast and the winter tourist traffic is growing at a much faster rate. We must, therefore, plan to develop the town as winter tourist resort as well and make the most of the "White Gold", the Snow. The winter sports are a source of fun to the participants as also to the spectators. Taking into consideration the above factors, and the Government policy for tourism development, it can safely be anticipated that in the near future the tourist traffic to Simla will keep on increasing. In the long run the relative growth trend might decline because of number of physical threshold but in the absolute figures, the trend would continue rising.

The future tourist traffic to Simla will not only be affected by the economic development of the Pradesh, but to a larger extent will be influenced by the development level of adjoining States and the country as a whole. No doubt, the number of tourists from other parts of the country is also increasing, but some states, particularly in North Zone, would affect in the near future the tourist traffic to this town to a large extent, with the process of economic development. The tourism and the level of development have positive correlation to each other.

Tourist traffic in Simla is also influenced by its location i.e. nearness to the plains. Simla enjoys the benefit of less distance from other parts of the country having swift transportation means. The city is also becoming popular for "Day Tourism", because tourists from nearly plain areas like to return by evening because of night staying problems.

On the above considerations, the tourist traffic may increase at a growth rate of 100% during 1971—81 and 50% & 25% during 1981-91 and 1991-2001 respectively. Accordingly, Table No. (13) gives the estimated average number of tourists visiting Simla at a point of time, decadewise upto 2001 which will add to the normal resident population for corresponding decades. These estimates are, however, average for the whole peak tourist season. On the particular peak tourist day, the tourist influx may be much more than these average figures.

TABLE NO. (13)
ESTIMATED NUMBER OF TOURISTS

Year	No. of tourists	Decadal growth rate
1971	20,000	100%
1981	40,000	
1991	60,000	50%
2001	75,000	25%

On the basis of Table No. (13), 75,000 tourists influx is projected for the year 2001. This clearly shows a high growth rate in the first few decades and thereafter the trend would start declining. This has been assumed keeping in view various thresholds. Therefore, it is not advisable to plan out urban infrastructure for a particular day peak population which can not be justified for the remaining 364 days. Therefore, average tourists population projections have been derived. Accordingly, the gross population estimates for Simla Planning Area for purposes of preparation of a Development Plan can be taken as under (refer Table No. 14).

TABLE NO. (14)
POPULATION PROJECTION FOR SIMLA PLANNING AREA

Year	Population of Simla Town	Population of adjoining settlements	Floating Population	Gross Population
1971	65,000	23,549	20,000	1,08,549
1979	85,800	29,036	36,000	1,50,836
1981	94,504	30,404	40,000	1,64,912
1991	1,37,499	39,255	60,000	2,36,754
2001	1,92,171	50,682	75,000	3,17,853

(Base year Population is 65,000).

4.8 Projected age Sex-structure for Simla Planning Area upto 2001.—Age sex structure is shaped by biological factors, like fertility rate and life expectancy and other factors like health standards, social conditions and economic opportunities. Many complex factors individually or in combination modify the age-sex structure of a given population group. Prior assessment of these factors can only be partially correct.

The Table No. (15) gives the age sex structure for Simla Planning Area from 1979 to 2001 (Decadewise). It can be seen from the tables that the labour force in Simla will increase from 61,957 in 1979 to 1,55,434 in 2001. Number of children in the school age-group will also increase from 22,266 in 1979 to 55,859 in 2001 (Refer Tables No. 16 to 18).

TABLE No. (15)

All Ages		Person	Male	Female
0—4				
5—9	..	10,648	5,159	5,489
10—14	..	12,585	6,041	6,544
15—19	..	9,681	484	4,840
20—24	..	8,713	4,792	3,921
25—34	..	11,617	7,551	4,066
35—44	..	20,329	13,214	7,115
45—59	..	13,553	9,487	4,066
60 and above	..	7,745	5,576	2,169
	..	1,936	1,336	600
Total	..	96,807	57,997	38,810

TABLE No. (16)

AGE SEX-STRUCTURE-1981

All Age groups		Persons	Male	Female
0—4				
5—9	..	13,740	6,657	7,083
10—14	..	16,239	7,817	8,422
15—19	..	12,491	6,298	6,193
20—24	..	11,242	6,183	5,059
25—34	..	14,989	9,684	5,305
35—44	..	26,232	17,119	9,113
45—59	..	17,488	12,280	5,208
60 and above	..	9,993	7,170	2,823
	..	2,498	1,727	771
Total	..	1,24,912	74,935	49,977

TABLE No. (17)

AGE SEX-STRUCTURE-1991

Age groups		Persons	Male	Female
0—4				
5—9	..	19,444	9,420	10,024
10—14	..	22,979	11,062	11,917
15—19	..	17,676	8,912	8,764
20—24	..	15,002	8,449	7,153
25—34	..	21,211	13,704	7,507
35—44	..	37,120	24,225	12,895
45—59	..	24,746	17,375	7,371
60 and above	..	14,141	10,146	3,995
	..	3,535	2,443	1,092
Total	..	1,76,754	1,06,036	70,718

TABLE No. 18
AGE SEX-STRUCTURE-2001

Age groups	Persons	Male	Female
0—4	26,703	12,943	13,760
5—9	31,573	15,199	16,374
10—14	24,286	12,245	12,041
15—19	21,858	12,021	9,837
20—24	29,144	18,829	10,315
25—34	51,002	33,283	17,719
35—44	34,061	23,875	10,126
45—59	19,429	13,940	5,489
60 and above	4,857	3,357	1,500
Total	2,42,853	1,45,692	97,162

CHAPTER V

PROJECTION OF WORKING FORCE AND ITS DISTRIBUTION

5.1 Introduction.—Estimation of the strength of future working force, its distribution in to various professional categories are of primary importance in the preparation of a development plan. Manpower resource is one of the pay factors, which sets the trend of the economic growth and hence it study and future projection assumes importance in context of visualising the future pattern of economic activities in the area, which have a strong bearing in turn on the comprehensive physical development plan.

According to 1961 Census, number of total workers in Simla was 18,334 i.e. 43 % of the total population of 42,597. This participation ratio in Simla town was less than that of Simla district as well as State. It was, however, 10% higher than that of Urban India. But according to 1971 Census number of total workers in Simla Planning Area was 31,353 that is 40.63 % of the total population of 77,171. Present participation ratio in Simla Planning Area is much higher than that of district and urban India. Following table gives the comparable figures of participation ratio for Simla Town and urban India.

PARTICIPATION RATIO (PERCENTAGE OF WORKERS TO TOTAL POPULATION)

	1961 Census	1971 Census
1. Simla Planning Area	—	40.63
2. Simla Town	43.00	38.57
3. Simla District (Urban)	44.1	36.71
4. Simla District (Total)	50.6	38.24
5. Himachal Pradesh	53.9	36.82
6. India (Urban)	33.5	29.56

Participation ratio in Simla Town is high due to the immigration of large number of workers from outside who leave behind their families in their native homes. A low sex ratio of Simla Town also corroborates this assumption. Sex ratio of Simla Town is 666 according to 1971 Census. However, it works out to be 707 for Simla Planning Area. A close perusal of the above figure

reveals that there has been an increase in the participation ratio of Simla Town and Planning Area whereas for Simla district, Himachal Pradesh and India (Urban), it registers a fall. The main cause for such an increase in the participation ratio is the peculiar city functions, climatology and extension in urban boundary etc. Among these, extension in urban boundary and service character rank first.

5.2 Characteristics of the Working Force in Simla.—The characteristics of working force or economically active population are of vital importance for planning a city or a region. The economically active population is defined to include "those persons who furnish the supply of labour for the production of economic goods and services". The measurement of the economically active population is based on two different approaches, namely 'Gainful Employment' approach and the 'Labour Force' approach. The gainful employment approach is based on the usual or customary activities of a person at the time of census or at any other point of time. A gainful worker is defined as a person who usually or for a large part of his time, works in an occupation by which he earns money or in which he assists in the production of marketable goods. The 'Labour Force' approach on the other hand is 'based on persons' activities during stated interval of time, usually at the time of census regardless of the persons usual activities or occupation status.

The labour force includes persons both employed and unemployed during the reference period. Those employed include all persons who are at work or who have jobs during the specified periods. Thus, they comprise both full time workers and part time workers, provided the latter work at least a minimum period. This minimum is set sufficiently low to exclude only those whose contributions are negligible. Unemployed population includes all persons able to work who are not employed and are looking for work or wanting work, during the specified period, including those never previously employed.

In India, 'gainful occupation' concept has been adopted with minor modifications to suit the needs of the country. The 'Labour Force' concept does not fit in the Indian Economy which is predominantly agricultural. The work in the agricultural fields is seasonal and, therefore, it would not be possible for the illiterate villagers to calculate the period, he works per day or the number of days worked in a year or during the specified period of time. Some of the agricultural people might not be employed at the specified time and may not have also other jobs but at the same time they can not be called unemployed.

The criteria adopted for work as well as working force in India has been changing from one Census to another. At the time of each Census, efforts have been made to overcome the short comings of the previous practice, to get a realistic picture. According to the census of 1971 a 'Worker' is a person whose main activity is participation in any economically productive work by his physical or mental activity. If a person had participated in any regular work on any one of the days during the reference period (one week prior the date of enumeration), he would be categorised accordingly. A person who normally works but abstains from work during the reference period on account of illness, travel, holidays, temporary breakdown, strike etc. is treated as engaged in regular work in which he would have otherwise been employed but for his temporary absence. Persons under training, such as apprentice with or without stipends or wages, have been considered as economically active. A person who has merely been offered work but has not actually joined it is not treated as a worker. A man or woman who is engaged primarily in household duties such as, cooking for own household or performing one's household duties or a boy or a girl who is primarily a student attending an institution, even if such a person helps in the normal economic activity but not as a full time worker, he or she is not treated as worker for the main activity.

The size of Simla Town has increased from 13,960 in 1901 to 55,326 in 1971. This increase has a positive effect on the working population which in turn has increased the absolute number of

workers in 1971 as compared to 1961 Census. But the participation ratio has deteriorated by 5% in 1971 as compared to 1961 Census. This may be attributed to the change in age and sex composition of population, change in the structure of migrants, (majority of members are non-workers).

Table No. (1) gives an occupational distribution of the workers in each occupational category in various sectors. The deterioration in participation ratio is reflected in occupational structure. The dependency rate of cultivator, manufacturing and processing industry, other than household industry, construction activities and other services have decreased, whereas for the remaining sectors, it has registered an increase.

The highest decrease has been observed in case of other services that is 3.335% whereas cultivators recorded the lowest decrease i.e. 0.275%.

TABLE NO. (1)

OCCUPATIONAL DISTRIBUTION OF THE WORKERS IN EACH OCCUPATIONAL CATEGORY IN 1961 AND 1971

Item No.	Occupational category	1961		1971		Decadal variations
		No. of workers	%age to total workers	No. of workers	% age to total workers	
I.	Cultivators ..	147	0.802	112	0.527	(—)0.275
II.	Agricultural Labourers..	18	0.099	87	0.407	(+)0.308
III.	Live stock, Forests and Allied activities ..	312	1.702	671	3.144	(+)2.442
IV.	Mining, quarrying ..	—	—	—	—	—
V (a)	Manufacturing Processing and Household Industry ..	532	2.902	65	1.241	(—)1.661
(b)	Manufacturing, repairing Industry other than household industry ..	1503	8.198	1526	7.150	(—)1.043
VI.	Construction ..	1301	7.096	1088	5.097	(—)1.999
VII.	Trade and Commerce ..	2090	11.399	3559	16.676	(+)5.277
VIII.	Transport and Communication ..	1705	9.299	2260	10.589	(+)1.290
IX.	Other services ..	10726	58.503	11774	55.168	(—)3.335
Total—Workers ..		18334	100.00	21342	100.00	—

In case of trade and commerce, the highest increase has been recorded i.e. 5.277%, which reflects the importance of Simla Town from commercial point of view, whereas the agricultural labour registered a lowest increase i.e. 0.308%.

During the decade 1961-71, the area of the city and the population has grown. The growing population has its effect on each sector (both sides i.e. positive as well as negative).

On the positive side of the picture, agricultural labour has recorded an increase. This may be attributed to the increased horticultural activities [Refer Table No. (2)]. The livestock,

forestry and allied activities has also registered an increase due to increasing economic and commercial importance of forests, establishment of Small Farmers Development Agency, Marginal Farmer Development Agency and establishment of Simla Milk Supply Scheme etc.

The Trade and Commerce has recorded a high increase which reflects the rapidly changing function of this city due to the hinter land requirements and commercialization of forestry, horticulture, agriculture, tourism and cottage industries.

TABLE No. (2)

OCCUPATIONAL DISTRIBUTION OF THE WORKERS IN SIMLA PLANNING AREA—1971 CENSUS

Item No.	Occupational Category	Number of workers		Total	Percentage to total workers
		Male	Female		
1.	Cultivator	2927(10.96)	2637(56.72)	5564	17.75
2.	Agricultural Labourers	414(1.55)	95(2.05)	509	1.62
3.	Livestock Forests and allied activities	987(3.70)	65(1.38)	1051	3.35
4.	Mining, quarrying	4(0.02)	1(0.02)	5	0.02
5.	(a) Manufacturing, Processing and Household Industry	467(1.74)	34(0.73)	501	1.60
	(b) Manufacturing, repairing and other than household industry	1850(6.92)	60(1.29)	1910	6.09
6.	Construction	1356(5.08)	95(2.05)	1451	4.63
7.	Trade and Commerce	3842(14.39)	888(1.89)	3930	12.53
8.	Transport and Communication	2461(9.22)	60(1.29)	2421	8.04
9.	Other services	12396(46.42)	1515(32.58)	13911	44.37
	Total	26704(100.00)	4649(100.00)	31353	100.00

Note.—Figures in the parenthesis indicates their respective percentage value.

On the other side of the picture, the cultivators have recorded a decrease for the obvious reason that the agricultural pockets in the city limits have been consumed by the human settlements.

The mining and quarrying activities have registered a negative growth due to closing of a number of stone quarries in the Simla city limits from the conservation point of view.

The manufacturing repairing and household industry (Item 5th a & b) has decreased because of its stagnating character. This in turn has negatively affected this sector.

Construction activities in Simla have appreciably gone down, which is drastic in face of its demand. This has multiplied the city housing problem, where demand is much higher but supply is very low or constant. This, in turn, has increased the rental value of the houses. This phenomenon is in fact helping the resstier class to become monopolist; since they are the only suppliers of fixed stock of houses, they dictate the rent according to their own desires. Besides above,

Government control on construction activities, lack of infrastructural facilities, physical planning, physical thresholds, public disincentives for house construction are some of the main reasons for this decline.

5.3 Anticipation of participation ratio.—Anticipation of participation ratio can be evolved with a view to the town's sociological and economical conditions and their future trends. There are specific theories dealing with such trends. According to one theory, participation ratio grows with the growth of economy upto a certain level. When that level is achieved it starts declining. According to this theory of economics, when an economy is under-developed, more persons have to work for achieving their livelihood, by engaging old men, women and children at work. And this trend continues till the take-off stage and the economy sustains a high pace of development. When there is sufficient income with the households, the supply curve of the labourers starts bending negatively. This happens when the labourers start finding out leisure time and they also start withdrawing their dependents like old men, women and children from work.

On the basis of empirical findings and analytical studies of Simla Town and also with a view to the above principle of the labour supply curve, the following anticipation of participation ratio for the next 30 years (Decadewise) has been worked out and is recommended for designing the land use structure and economic policy for socio-economic development in the town:

1979	..	41%
1981	..	42%
1991	..	41%
2001	..	40%

By applying the above participation ratio, we can also study the participation structure which is given in Table No. (3).

TABLE No. (3)
WORKERS AND NON-WORKERS

Description		1979	1981	1991	2001
1. Workers	..	39691 (41%)	52467 (42%)	72472 (41%)	97146 (40%)
2. Non-workers	..	57116 (59%)	72445 (58%)	104282 (59%)	145707 (60%)
Total	..	96807 (100%)	124912 (100%)	176754 (100%)	242853 (100%)

5.4 Sectorwise distribution.—Simla Town, as indicated by the plans and programmes of the State Government, will maintain its primacy among the urban centres of the State. Its already developed infrastructure, nodality and other geographic factors viz., nearness to the plains, as well as interior areas of the State, will make it a ready choice for locating more and more industrial, commercial and service organisations in future. The capital functions of Simla will also generate more Government and Semi-Government in employment in future in the way of multifarious development activities in the State. All these together will draw workers from different parts of the State as well as from outside. A large scale influx of workers into the town will tend to keep the sex ratio comparatively low and participation ratio will be high atleast during the next decade after which marginal decline may be expected. The decadal rate of growth of population of Simla Town will be 40% in 1971-81, 40% in 1981-91 and 30% in 1991-2001. Table No. (4) to (7) give an occupational distribution of workers in each Industrial category. This being projected taking into consideration the present structure of the economy of the Town as well as the structural changes which are likely to occur in future. Table No. (4) gives us the estimated occupational distribution of the workers in 1979. The dependency rate of 'Other Services' is highest i.e. 45%. Whereas 'Mining and Quarrying' has recorded the lowest dependency rate. Trade and Commerce and

Cultivators also play an important role because the dependency rate is 13% and 14% respectively. Why the cultivators have deteriorated and Trade and Commerce has gone up? The decrease in the dependency rate of cultivators is observed due to the acquisition of agricultural land for human settlements. The Trade and Commerce activities have observed a positive change. This change has occurred due to the increasing demand of Inter-sector flows, the land requirement, commercialization of forestry and horticulture and thus over all participation ratio in 1979 has increased to 41% and this will further increase to 42% in 1981. But after 1991 it is likely to decline marginally [Refer Table Nos. (5) to (7) for detailed occupational structure]. In next three decades, cultivator's activities and 'Other Services' will deteriorate (except in case of 'other services' in 1981) whereas Household Industry, other than Construction, Trade and Commerce, Transport and Communication is likely to increase due to their respective importance in Simla Town.

TABLE NO. (4)
PROJECTED OCCUPATIONAL DISTRIBUTION OF THE WORKERS IN SIMLA
PLANNING AREA-1979

Item No.	Occupational category	Number of workers	Percentage of total workers
1.	Cultivators ..	5,557	14.00
2.	Agricultural labourers ..	794	2.00
3.	Livestock, Forests and Allied Activities ..	992	2.50
4.	Mining, Quarrying ..	198	0.50
5.	(a) Manufacturing, Processing and Household Industry ..	794	2.00
	(b) Manufacturing, repairing and other than household industry ..	2,778	7.00
6.	Construction ..	1,984	5.00
7.	Trade and Commerce ..	5,160	13.00
8.	Transportation and Communication ..	3,572	9.00
9.	Other Services ..	17,862	45.00
	Total ..	39,691	100.00

TABLE NO. (5)
PROJECTED OCCUPATIONAL DISTRIBUTION OF THE WORKERS IN SIMLA
PLANNING AREA-1981

Item No.	Occupational category	Number of workers	Percentage of total workers
1.	Cultivators ..	5,246	10.00
2.	Agricultural labourers ..	1,049	2.00
3.	Livestock, Forests and Allied Activities ..	1,316	2.50
4.	Mining, Quarrying ..	262	0.50
5.	(a) Manufacturing, Processing and Household Industry ..	1,049	2.00
	(b) Manufacturing, repairing and other than Household Industry ..	3,672	7.00
6.	Construction ..	3,148	6.00
7.	Trade and Commerce ..	7,346	14.00
8.	Transportation and Communication ..	5,246	10.00
9.	Other Services ..	24,133	46.00
	Total ..	52,467	100.00

TABLE No. (6)
PROJECTED OCCUPATIONAL DISTRIBUTION OF THE WORKERS IN SIMLA
PLANNING AREA—1991

Item No.	Occupational category	Number of workers	Percentage of total workers
1.	Cultivators ..	4349	5.00
2.	Agricultural labourers ..	1812	2.50
3.	Livestock, Forests and Allied Activities ..	2174	3.00
4.	Mining, Quarrying ..	362	0.50
5.	(a) Manufacturing, Processing and Household Industry ..	2174	3.00
	(b) Manufacturing, repairing and other Household Industry ..	5798	8.00
6.	Construction ..	5073	7.00
7.	Trade and Commerce ..	10871	15.00
8.	Transportation and Communication ..	7972	11.00
9.	Other Services ..	31887	44.00
	Total ..	72476	100.00

TABLE No. (7)
PROJECTED OCCUPATIONAL DISTRIBUTION OF THE WORKERS IN SIMLA
PLANNING AREA—2001

Item No.	Occupational category	Number of workers	Percentage of total workers
1.	Cultivators ..	3886	4.00
2.	Agricultural labourers ..	2915	3.00
3.	Livestock, Forests and allied activities ..	3400	3.50
4.	Mining, Quarrying ..	486	0.50
5.	(a) Manufacturing, Processing and Household Industry ..	3400	3.50
	(b) Manufacturing, repairing and other than household Industry ..	8743	9.00
6.	Construction ..	7771	8.00
7.	Trade and Commerce ..	15543	16.00
8.	Transportation and Communication ..	11172	11.50
9.	Other Services ..	39830	41.00
	Total ..	97146	100.00

CHAPTER VI PLANNING OBJECTIVES AND DEVELOPMENT STRATEGY

6.1 Aims and Objectives.—The main aims and objectives of this Development Plan are to better the socio-economic and cultural life in this city within the least cost and to control deterioration in the natural environment and to provide guide-lines for future expansion of this city on scientific lines. Therefore, the fundamental principle of profit/benefit maximisation or cost/loss minimisation is the sole objective of such a plan. The good living environment, safe and convenient movement of people, well co-ordinated and judicious uses of land, adequate provision of services etc., are the bases of a well conceived Integrated Development Plan.

This development plan, therefore, conceives, in general, an efficient and judicious use of land, earmarking of suitable areas for house construction, transportation net-work for safe and speedy movement of people and goods and to infuse economic life by providing small and cottage industrial infrastructures, adequate sites for commercial activities, provision of adequate water supply, power, education and other basic needs. The development plan also conceives importance of conservation of an ecological order and preservation of such other areas which may be important from the view point of scenic values. Besides above, it is also one of the basic objectives of the development plan to provide fair distribution of cost and benefit of development proposals.

The aims and objectives of a development plan are derived out of the problems being experienced in the planning area and likely to be faced during the perspective planning period. Therefore, it is the function of the particular planning area which should be kept in view to determine the realistic aims and objectives for the formulation of a comprehensive development plan. An analysis of the problems being faced in the Simla City has been given in the previous chapters, which highlights certain constraints to be overcome by way of integrated planning and development approach. Therefore, before conceiving broad and specific objectives for this development plan, some peculiar developmental problems of Simla City need a pointed attention for planning the development. Therefore, after taking a due stock of these problems, the development plan lays down the following broad objectives:—

6.1.2 Simla being capital city of the State, it is important to highlight the capital functions of this city for formulation of development plan. This function has to be judiciously separated from other functions, not only with a view to the prestigious functions of capital institutions like Secretariat, High Court, State Legislative Assembly and different Directorates etc., but from intra-functional point of view also. Therefore, the development plan proposes to evolve a suitable Capital Complex, which may have a prestigious setting and integrated net-work for communication and which may also keep functional inter-relationships amongst various departments/offices.

6.1.3 Simla being on the international map of tourism, this function needs special consideration in the development plan. The development plan, therefore, lays down an objective to provide necessary infrastructure for the tourism and preserving such scenic areas which have fascinating characters. For this purpose, it is important to classify the areas which need to be preserved, maintained and developed for the tourist industry. Therefore, it is one of the broad objectives for this development plan to earmark specific areas for tourist interest for preservation and development.

6.1.4 Simla is a metropolis, catering broadly whole of the State in some of its functions, but intensively catering all the commercial, educational and health requirements of its hinterland i.e. Simla Urban Region which situation has been analysed in the previous chapters. Therefore, it is an objective of this development plan to cater the three orders of commercial, educational and health requirements in this city. The first in order is to cater the local needs. The second in order is to provide these facilities for the city region and the third in order for the State as a whole.

6.1.5 Simla city being placed in a rugged topography and facing a number of natural constraints like sinking, sliding and erosion, it is an objective of the development plan to sieve out unsafe areas of the aforesaid characteristics, which could be prohibited for heavy developmental activities and declared un-safe for expansion.

6.1.6 As may be observed from the existing set-up of this city and its environs, most of the facilities and urban infrastructure are concentrated in the city centre. It is, therefore, an objective of the development plan to diversify the activities on some specific space standards by infusing disincentives in the city core and providing better infrastructure in the sub-urban areas and also by way of shifting certain uses from the city core and by providing better developmental facilities in the sub-urban pockets.

6.1.7 For the implementation of development plan, it is one of the essential objectives to set out various priorities and co-relate the same with the State Annual Plans/Five-Year Plans so that the physical planning proposals are integrated with the fiscal planning for their smooth implementation.

6.2 Basic Considerations.—The basic considerations for evolving a comprehensive development plan is to conceive a functional hierarchy which may be suitable to the peculiar setting of Simla City. In the functional hierarchy it is not advisable to follow spatial standards accepted for the planning of a city in the plains. Therefore, this development plan considers the walking distance and time as a standard/parameter for determining the functional hierarchy of the town rather than spatial standards for providing education, health and other infrastructural facilities. Walking distance from one place to another is being considered essential rather than a physical distance because of the geographical considerations. Therefore, in the functional hierarchy of this city, it has been conceived to provide self-contained localities the size of which would depend on the criteria of space availability. Broadly, it has been conceived to sub-divide whole city into segments *i.e.* capital city, the 'down town' *i.e.* existing commercial town and the tourist city; and further sub-divide these city segments with a view to make them self-contained on the basis of walking convenience.

6.3 Planning Strategy.—The plan conception and development strategy is much influenced by the geographical setting of this city. As already reported in the previous chapters, the existing Simla has developed on "Villa-rounds" of 7 hills inter-linked by a major ring road known as Cart Road and linearly connected by a pedestrian route known as Mall Road. For future growth strategy of this town, the Simla hill range, which stretches from east to west, provides two directions along the range on its ridge towards east and west of the existing Simla. The north slopes of this hill range are almost forested and some of the areas are full of problems like sun shade, sinking and sliding characters, except a small patch known as Bharari Hill. An Expert Team of Planning Commission on this character has reported as below:—

"We are of the opinion that the basic rock structure of the Simla Hills is not involved and the movement is confined to the over-burden on the northern slopes of the Ridge in the entire area beginning from the Grindlays' Bank in the west to the Lakkar Bazar in the east at the Ridge level at the top and extending down to Subhash Nagar near Ruldu-ka-Bhatta Nullah at the lower level. It also includes the Central School on Jakhu Hill to about 300 feet below the existing sub-station at the Idgah and above 100 feet below Subhash Nagar."

Towards eastern Simla, there are also limited scopes for expansion of the city because of the rugged topography and criss-crossed and forested mountains which provide difficult accessibility. The pocket known as Kasumpti spur, however, provides suitable scope for future expansion of the city.

On the western spur of the Simla Hill, some suitable ridges are available. But here too, certain constraints like Cantonment Area, besides steep slopes, agricultural belts and forested areas prevail. Besides above, the Simla Hill range has suitable spurs on its southern aspect. These ridges can be identified as under:—

- (1) Kasumpti sub-hill range in the eastern side of the existing Simla.
- (2) Bishop Cotton School spur, which includes Patina, Patiog etc.
- (3) Khalini Spur.
- (4) Kanlog Spur.
- (5) Tutikandi Spur.

These 5 baby hill spurs or future city ribs are stretched out of the mother hill "Simla Hill Range" providing southern aspect suitable from environmental and road net-work articulation point of view. With a view to the aforesaid factors, it is being conceived that the planning strategy is evolved on the basis of these hill ranges which make out an open hand impression. In this

topographical strategy, the settlement pattern is benefited by 'Villa-Round' conception of the development and also to decide landuses with a view to the climatological accessibilities factors. The lower belts of these ribs, which are mostly sunny and beyond snow ranges are being conceived for residential and other uses. Jakhu Hill Complex can be preserved and developed from tourist point. With a view to the above topographical conception, it is being conceived to articulate the road net-work along the contour (along with the hill ranges) and provide up-hill walk ways on the ridges linking the 'down town' besides introducing technological innovations like lifts, rope-ways and tunnelling at various vantage points.

A study of occupational structure manifested by 1971 Census would reveal administration as a major function of the city, which covers about 50 % of total working force. Therefore, this function alone needs to be given greater attention. Although the strategy for this development plan is to localise all the administration activities in the capital complex to be known as New Simla, yet it would perhaps not be feasible to have so much area for such wide and large function. Therefore, the development plan proposes to retain some of the administrative functions which are already existing and developed in a particular area. However, it would suggest to provide ample space for their future expansion and also to cater their residential requirements. When these offices are provided with residential accommodation nearby along with other essential needs, it would help to solve work place relationships without undergoing much shifting which would invariably involve high cost.

CHAPTER VII LANDUSE PROPOSALS

PART I

7.1 Projected Land Requirements

7.1.1 Planning Area and Development Control.—For the purpose of planning and regulating the development in this planning area, the Town and Country Planning Act, 1977 came into force on 30th November, 1977 and the landuse under section 16 of the aforesaid Act was freezed by the Director (T.P.) by a notice on 14th March, 1978 which has already put a ban on all haphazard developments/constructions in the planning area covering the activities of the Central/State Government Departments.

Keeping in view the population and economic forecast analysed in the previous chapters, Simla Planning Area has been constituted under sub-section (1) of section 13 of the Himachal Pradesh Town and Country Planning Act, 1977 by the Governor of Himachal Pradesh and notified in the Official Gazette. The boundary of this planning area has been defined (also shown in the map attached) as under:—

- North:** Areas bounded by Ghannahatti, Panti, Barohi, Saihog, Neg, Badfar, Shildu, Batinga, Chhanar, Sholla, Pharoga, Bahag.
- South:** Shogi, Goru, Badhog, Chadav, Pujapali, Beola, Kawalag, Jaif, Panchki, Shurla Khalog, Baraha.
- East:** Karier, Kufri.
- West:** Gawhi, Niahi, Lagna, Shamleg, Wahera, Keonthal, Bhariyal, Baghna, Shilru; Shilu, Jaog, Kanda, Dharat.

The Planning area as declared under the Himachal Pradesh Town and Country Planning Act, 1977 is about 4 times more than the existing Municipal Corporation limits. This planning area includes about 205 villages, 4 small Urban Centres *i.e.* Totu, Kasumpti, Dhalli and Taradevi and one Cantonment. However, the landuse proposals for development would cover almost 2/3rd of the planning area only thereby leaving 1/3rd as green belt which would remain operative

for agricultural activities. However, the Director would have full control of this green belt for the purpose of secondary and tertiary activities. Therefore, the present planning can broadly be classified as below:—

- (1) Municipality Area.
- (2) Development area for which landuse proposals have been given in the Development Plan. This also includes all Municipal Areas.
- (3) The Green Belt Area.

7.1.2 City Structure.—Conceptually the development plan broadly suggests three tier functions *i.e.* the capital, commercial and the tourism, yet the city structure envisaged in the development plan suggest cellular growth on satellite conception. Therefore, besides deciding the city structure with a view to the Capital Complex function, commercial and the tourism functions, it has been conceived to sub-divide the whole Simla City of tomorrow in seven planning zones including the city centre, designated as Central Business Zone. These seven zones have been conceived with a view to keep a proper spread of Public and Semi-Public facilities, besides commercial and other activities. These zones are named as below:—

- (1) Central City Zone (CBD), as a major commercial part of the city and providing tourist oriented infrastructure as well.
- (2) The Kasumpti Zone, which would act as a Capital Complex or the New Simla.
- (3) The Bharari Zone which would function as a major residential zone near the city centre.
- (4) The Summer Hill Zone which would primarily cater to the higher educational and research needs having wide spread recreational facilities like zoological park and botanical garden.
- (5) Totu Zone which would primarily cater the defence needs and small scale industrial activities.
- (6) Tuti-Kandi Zone. This is again a major residential zone providing for transport/camping facilities for the tourists.
- (7) Sanjauli Zone. This is primarily a Service Industrial Zone.

7.1.3 Landuse.—Within the frame work of development strategy suggested in the preceding chapter and the population and economic projections made in earlier chapter for the Simla Planning Area, a proposed landuse structure for 2001 has been worked out, taking note of various land requirements under different activities and their inter-relationships. The development plan envisages the future urbanisable limits of Simla to include the Jutogh-Totu complexes on Simla-Mandi Road in the West, Summer Hill complex including Chaili and University Campus, and Bharari complex areas in the North, Sanjauli-Dhalli complex in the Eastern Simla and Kasumpti-Khalini complex in the South, encompassing within its fold a gross area of 10,688 acres, of which 6,823 acres or 63.94% would be under actual development, the rest is forest and extensive natural greens and woodlands. The entire urban area has been sub-divided into seven zones for organising the landuse relationships. A population range of 20,000 to 40,000 has normally been envisaged for a zone in the Development Plan although the Simla Central Zone which comprises by and large the existing Simla town, will contain a higher population. With a view to establish a functional hierarchy of residential areas which in turn will lay down similar hierarchy for public and semi-public facilities to be provided within each residential area, every zone is envisaged to be comprised of communities, each catering the needs of a population group of 8,000 to 10,000 persons. Each such community is further envisaged to be comprised of neighbourhoods catering to population groups of 1,500 to 2,500 persons.

7.1.3.1 Residential Requirements.—Adopting a variable density pattern ranging from 60 to 125 persons per acre, according to the location and planning approach in seven planning zones, residential use will require 3,327 acres of developed land which means an addition of 2,277 acres to the existing area under residential use,

The land requirement for residential use include all public and semi-public facilities which have to be located within the residential areas at neighbourhood levels.

7.1.3.2 Commercial Requirements.—Keeping in view the fact that Simla will cater to most of the shopping needs of the population of its region in addition to its own resident population, an average norm of one retail shop per 100 population has been adopted to work out the total number of shops required by 2001 and this come to 2,500 shops. As shopping hierarchy is proposed to follow the hierarchy envisaged for residential development and community facilities, the following pattern of distribution of retail shopping has been kept in view.

SUGGESTED DISTRIBUTION PATTERN OF RETAIL COMMERCIAL COMPLEX FACILITIES FOR 2001

Location	Population served	No. of Retail shops
City Centre (Central Business)	.. 1,50,000 to 2,00,000	1,000 to 1,500
Zonal Centre	.. 20,000 to 40,000	120 to 150
Community Centre	.. 8,000 to 10,000	30 to 50
Neighbourhood Shopping Centre	.. 1,500 to 2,500	6 to 10

It has been envisaged that 40% of the total number of shops will be in the Central Business Centre, 25% in the Zonal Centre, 20% in the Community Centre and 15% in the Neighbourhood Shopping Centre. The total requirement of land to be put under commercial use on the basis of above pattern including space for ancillary activities which are to be provided in shopping areas works out to be 176 acres. The main wholesale trading business in apples and potatoes is being proposed to be shifted within the planning area at Shogi.

7.1.3.3 Industrial Requirements.—Industrial activity in Simla is envisaged to be mainly cottage industry and in the small scale sector and will fall into two distinct groups viz. organised high density (200 workers per acre) tourism oriented industry including service industry catering to tourism demand and local consumer market and low density (70 workers per acre light industries viz. Agro-based, Forest and Horticulture based and manufacturing of general industrial products which may have an export market. Accordingly, the industrial land demand works out to 170 acres for 2001.

7.1.3.4 Public and Semi-public Facilities.—Public and semi-public facilities which are of a local nature and part of a residential neighbourhood have not been separately considered for land allocation in the development plan as these will form part of the overall residential area and appropriate sites would be earmarked for each of such facilities while preparing detailed plans for these areas.

7.1.3.5 Educational.—Adopting a school strength of 100 pupils for nursery school, 300 pupils for primary schools, and 400 to 450 pupils for higher secondary schools requirements of school units per 8,000 to 10,000 population works out as 8 nursery schools 4 primary schools and 3 higher secondary schools. For meeting with this requirement, the Development plan suggests two higher secondary schools, one higher secondary school with primary classes three primary schools having nursery classes and five nursery schools, thus economising four sites i.e. one for Primary School and three for Nursery Schools

7.1.3.6 Higher Education Facilities.—So far as university and other institute of higher learning are concerned in the Simla Planning Area, existing facilities in Simla Town will meet the anticipated future demand not only for the Simla Planning Area but also for the surrounding region. However, for college level facilities it would be necessary to locate new colleges in Totu, Bharari and Kasumpti Towns.

7.1.3.7 Health Facilities.—So far as hospitals are concerned, the available bed strength in the three general hospitals is of 600 beds besides the Isolation Hospital which has 50 beds capacity. Adopting a norm of 3 beds for every 1,000 population, a total of 900 beds will require to be provided in order to cater to the projected population of 2001 including the floating population. Keeping in view the dispersed nature of development and requirements of hospital beds, it is considered necessary that 3 more hospitals with 100 to 150 beds capacity in each may be planned for in addition to the existing facilities, besides increasing the bed capacity of the Infectious Diseases Hospital from 50 beds to 150 beds. While the expansion of the Infectious Diseases Hospital can be achieved in its present location, three new hospitals will involve an area allocation of 45 acres. These hospitals are proposed to be sited at Totu, Kasumpti and Bharari where major residential expansions are contemplated. Besides these, at each community level one Health Centre with maternity and child welfare facilities on a site of 1.5 to 2.00 acres will need to be provided in addition to the existing grossly limited dispensary facilities, involving an allocation of 40 to 50 acres for Health Centres. While the hospital may not form part of the planning zone and may have an independent location, the Health Centre is conceived as part of the Community Centre Complex.

Ripon Hospital, which is serving as a District Hospital, is located in a congested place surrounded by unhealthy environment. It is probably the most unhealthy situation for a health resort. Moreover, there is no scope for its expansion to cater as a district hospital from treatment point of view, leaving aside the other basic requirements like residential accommodation for essential staff, laboratories, blood bank, laundries etc. Hence, it is proposed to shift this activity to Pari Mahal in Kasumpti for better healthier and efficient functioning.

7.1.3.8 Civic-Cultural and Social Facilities.—Besides the existing facilities presently available at the City Centre, it is proposed to earmark appropriate areas both at the Zonal level as well as the Community level for such facilities and services. On the basis of likely coverage of Zonal and Community centres with regard to various items of facilities and services under this head, an average allocation of 8 acres in each Zonal centre and 1.50 acres in each Community centre for civic and cultural facilities has been adopted giving a total requirement of 85 acres for appropriate allocation at both these levels of community planning. This will be in addition to marginal increase in area for such activities which may become available in the City Centre itself.

7.1.3.9 Major Recreational Facilities and Organised Greens.—At the City Centre level the available area under this activity may increase with the proposed establishment of multi level cultural-cum-recreational complexes which have been proposed at Combermere Nala and at Blessington Skating Rink as open stadium, barring which all future requirements for active and passive recreation will have to be met in zonal centres, community centres and the zones designated as major recreational greens in the plan. 100 acres of land has been earmarked for this facility based on a norm of 8 acres per zonal centre and 2.00 acres per community centre for organised recreational purposes and is envisaged to be sufficient to cater for such facilities at the zonal and community levels. Besides at the city level, a Sports complex covering an area of 30 to 40 acres (at Annadale site) and Botanical and Zoological Parks extending over 400 to 500 acres are proposed to be provided in order to cater for organised active and passive recreational activities of the projected population. These allocations would be in addition to the conservation zones, wood lands and natural parks proposed to be established around Jakhu and Prospect Hills, as well as intervening green and forested belts and natural wood lands along valleys and steep slopes of hills which cannot put to any organised activities.

7.1.3.10 Composite of Area for Zonal and Community Centres.—A zonal centre is envisaged to accommodate commercial, civic, cultural, social, organised recreational facilities and some service industries required to cater to the needs of a zone. The college and hospital facilities proposed to be located for the zone may not necessarily from a part of the zonal centre in view of topographic and other locational constraints. On an average an area of 30 to 35 acres will be

required for a zonal centre. A broad break-up of which, under various groups of activities, will be as under :—

1. Commercial including Warehousing	.. 10.00 Acres.
2. Civic, cultural and social facilities	.. 7.00 Acres.
3. Organised Recreational uses	.. 7.00 Acres.
4. Institutions/Offices	.. 4.00 Acres.
5. Service Industry	.. 3.00 Acres.
6. Health Centre	.. 2.00 Acres.
Total	.. 33.00 Acres.

The community centre which will be catering for a population group of 8, 000 to 10,000 people will require, on an average, a site area of 7 acres, the break-up of which will broadly be as under:—

1. Commercial uses	.. 1.50 Acres.
2. Civic, Cultural and Social facilities	.. 1.50 Acres.
3. Service Industry	.. 0.50 Acres.
4. Organised Recreational uses	.. 2.00 Acres.
5. Health facilities	.. 1.50 Acres.
Total	.. 7.00 Acres.

7.1.4 Locational aspect of Landuses.—Locational aspects of proposed landuse pattern in each zone have been governed primarily by the underlying planning strategy of conceiving a multi-nucleus urban structure for Simla composed of self-contained Zones broken down into smaller units *viz.* Communities and Neighbourhoods. Availability of developable land for residential and ancillary uses in each zone and functional requirements of a particular non-residential use in relation to the existing developments as well as proposed expansion has been taken into account. While in the Simla a Central Zone comprising the existing main town, there is no scope for major expansions to be contemplated, save in-filling of developable pockets in and around existing development. This is intended primarily to rationalise the existing density structure by certain amount of decongestion measures in the central commercial area between Cart Road and the Mall Road during the process of its redevelopment and renewal.

In Sanjauli area only limited expansion has been found feasible because of rugged topography and steep slopes. Similarly in Summer Hill area owing to non-availability of developable land, only limited expansion is possible. Himachal Pradesh University Campus has occupied sizeable area. However, in Jutogh, Bharari and Kasumpti areas major expansions have been contemplated in the Development Plan and these three zones are expected to account for major portion of the future projected growth of Simla both in terms of population and activities.

The Kasumpti area along with Maheli has been proposed for Government Residential Colonies and Capital Complex. Annandale Grounds, the only available sizeable flat piece of land in Simla being widely used for sports purposes was turned over to Defence authorities for being used as helipad. Its immediate periphery has been the obvious choice for its reallocation as a sports complex for the town's population. The Defence establishment in Annandale has been proposed to be shifted to Jutogh where the Cantonment has considerable area within its jurisdiction, presently lying unused. With the proposal to have a regular airstrip for medium sized aircrafts in Jubbar Hatti Zone on Simla Nalagarh State Highway, the existing helipad facilities at Annandale can be conveniently dispensed with.

Owing to its locational importance and nodality in relation to overall development, the existing central area of Simla between the Cart Road and the Mall from Gorton Castle to High Court, has been assigned to accommodate most of the tourist oriented activities *viz.* cultural and recreational complexes and tourist residential accommodation facilities. The Development Plan envisages Kufri and Mashobra to be developed exclusively as tourist complexes. For local

requirements, however, tourist accommodation facilities have been proposed to be located in the central zone comprised of Upper Kaithu, the Mall, Lower slopes of Jakhu Hill and Chhota Simla where high and medium density residential development has been envisaged. This is the area where most of the existing hotel facilities for tourists are presently located.

The Central Commercial Area between Cart Road and the Mall would continue to function as the Central Business Zone of Simla, but after phased re-development and renewal, it will cater to central shopping facilities, organised spaces for commercial offices, service industry and high density mixed use. Non-conforming activities presently existing in the Central Commercial Area particularly along the Cart Road (Bus-stand Area) viz. coal depots, apple and potato wholesale market and the timber shops and godowns on the northern side near Lakkar Bazar, are proposed to be relocated on alternative sites. This would provide considerable area within the city centre for being put to more appropriate public and semi-public uses.

The Ridge has achieved historical importance in the social and cultural life of Simla as it provides perhaps the only central congregation space for public meetings and functions wherein citizens of the town participate. By virtue of its central location it also provides panoramic views of the north and south face developments in the town as well as of snow-capped mountains, valleys and hills in the distance beyond. In other words it is a focal point in the town's fabric. While the Development Plan proposes the piazza on the Ridge to continue performing such functions, it is also proposed to further provide a civic and cultural complex comprising of a Convention Hall and other cultural facilities for the town in a location abutting the Ridge piazza on the high terraces occupied presently by the Deputy Commissioner's residence and some private buildings. This together with the Ridge piazza, the Church, the existing Municipal Library and the Town Hall will comprise the cultural heart of Simla.

7.1.4 Land Allocation.—Summing up, the Development Plan contemplates allocation of developed land in the Simla Planning Area for 2001 under various major uses as follows—

PROPOSED LANDUSE FOR SIMLA DEVELOPMENT PLAN—2001

Sl. No.	Landuse	Area	
		Acres	Percentage
1. Residential	..	3,327*	48.77.
2. General business including Centres	Commercial ..	332	4.87
3. Industrial	..	170	2.50
4. Governmental	..	597	8.74
		(360)	
5. Public & Semi-Public Facilities	..	676	9.90
6. Recreational Greens & Organised, Semi-Organised open spaces	..	1,111	16.28
7. Circulation	..	610	8.94
Total—Developable Area	..	6,823	100.00
Forests/Agriculture/Undevelopable Area	..	3,845	
Gross Area	..	10,668	

*Excludes residential area in the Cantonment, University Campus and in the City/District/Community Centres.

PART-II

7.2 Development Proposals

7.2.1 Residential Development.—The plan envisages the entire area earmarked for residential development upto 2001 to be developed on comprehensive area-wise basis in accordance with a pre-conceived phased programme of development at residential densities indicated on the plan. In a nutshell, the plan has envisaged the following residential densities for future Simla which should apply not only to the development of new residential areas but also to the redevelopment of existing residential areas:

Low density	.. 50 to 60 persons per acre.
Medium density	75 persons per acre.
High density	.. 100 to 125 persons per acre and 150 persons per acre in the Central Area.

These densities relate to the gross residential area in a particular community/neighbourhood which includes area under local level amenities and internal circulation. The residential development is further envisaged to be limited generally to three storey construction with a variety in heights within a given pocket, to achieve interest in design and aesthetics. Use of local building materials in construction is strongly advocated and in order to improve and innovate upon hill side construction. The Town and Country Development Authority may take the initiative in formulating type/designs for residential units on varying sizes of plots which may be adopted in private residential development. Such a step will create harmony of design in the residential areas.

While most of the new residential areas are proposed to be developed at low and medium density, existing developed pockets where density is presently fairly high are proposed to be redensified. Highest density of 150 persons per acre has been proposed only for the existing high density development in the central area in Simla Central Zone, whole of which is designated as a "Redevelopment Area" in the Plan. Higher density development has also been proposed in Sanjauli, Chhota Simla, Boileaugunj and Jutogh Bazar Areas where limited redevelopment is envisaged. The Plan has also earmarked a few pockets mainly in the Central Zone envisaged to be developed exclusively for providing accommodation for tourists and these areas may be taken up for comprehensive development by the Public Sector to promote tourism in Simla.

Besides the residential areas indicated as such in the Development Plan, certain amount of population will continue to be accommodated in the Central Business Zone after its redevelopment, as Zonal Centres and Community Centres. On a rough analysis of likely space becoming available for residential purposes in these Commercial Zones, it is estimated that 5,000 persons will be accommodated in the Central Business Zone, 1,500 each in Zonal Commercial Centres and 200 each in Community Centres. Further, it is estimated that Cantonment area at Jutogh will contain a population of 3,000 persons in 2001 whereas about 5,000 persons will account for the population of the University Campus, and 1,000 persons in the special public institutions, all of which will have to be taken care of in respective zones.

7.2.2 Landuse structure for Residential Commercial Centres.—For a healthy community living, it needs hardly be emphasised that a residential area should be able to provide requisite environmental conditions as well as community facilities and service. Norms and space standards have earlier been suggested to be adopted at various tiers of community planning. It would, therefore, be imperative that within a residential area proposed to be developed at a particular density standard, adequate area is allocated for various non-residential uses, which forms an integral component of the residential community. These facilities are given in Table No. (1).

TABLE NO. (I)

HIERARCHICAL DISTRIBUTION OF FACILITIES IN RESIDENTIAL AREA

Residential Unit	Population accommodated	Community Facilities to be provided	Area in Acres
Housing Cluster	600 to 900	1. Nursery School 2. Tot/Lot Play spaces 3. Corner shop	0.25 0.25 —
Residential Neighbourhood (2.03 housing clusters).	1500 to 2500	1. Primary School 2. NH Park/Play area 3. Shopping Precinct (5 to 6 shops)	0.75 1.50 0.75
Residential community for neighbourhood.	8000 to 10000	Higher Secondary (3 Nos.) at the rate of 2.50 each.	7.50
Residential Zone (3 to 4 community).	20000 to 40000	1. Zonal Commercial Centre 2. College 3. Hospital 4. Organised open spaces	35.00 8.00 10.00 5.00

7.2.3 Housing for service population.—The plan envisages a minimum reservation of the gross residential area in each residential community exclusively for providing housing accommodation for the low-income service population to be undertaken under public housing programmes or under the private sector, as the case may be. This population would be kept in view while developing a residential area for purposes of constructing new housing under the public or the private sector.

7.2.4 City Centre.—The entire area encircled by the Cart Road upto Combermere Nala in the South and Pedestrian tunnel near Snowdon hospital complex in the North to U. S. Club and proposed Road linking U. S. Club area to Sanjauli, the Mall beyond existing Lakkar Bazar shops, along with all existing development has been identified in the Plan as the City centre of future Simla. This area, by and large, is performing central functions even now and certain adjoining areas are also proposed to be included in the City centre complex to provide more space for expansion of central facilities. The city centre will thus cover an area of approximately 135 acres and besides accommodating the central business, will also accommodate city level civic, cultural and recreational activities as well as high density residential accommodation mainly catering to tourist demand.

7.2.5 Capital Complex.—The development strategy in the previous chapter suggests to create a prestigious Capital Complex in Kasumpti (Chhota Simla) Zone in the development plan. Keeping in view, the importance of this use in the area, special attention has been given for location of urban infrastructure such as College, Hospital, Wholesale Trading Centre and Zonal Commercial Centre etc. as suggested in the previous paragraphs of this chapter. After a thorough study of the areas, it is proposed to acquire the Maheli Village and Pantha-Ghati hill ranges for the offices because the limited space available with the present Secretariat complex would not meet the future requirements of the proposed use. However, the development plan proposes to retain the present Secretariat and the adjoining buildings already constructed or under construction. The proposed area at Maheli and Pantha-Ghati near Pari-Mahal (Kasumpti) would meet the additional requirements of the Government offices such as various Directorates/District level offices which are presently functioning in private residential or rental buildings. It is also proposed

to shift the P.W.D. Offices from their present location at U. S. Club to the newly proposed Capital Complex. The premises vacated by the P. W. D. offices is proposed to be utilised as Community Centre for the area. The Development Plan suggests no change in the present location of the following Departmental Offices because of availability of certain residential pockets nearly:—

1. Agriculture Department at Nalagarh House (Boileaugunj).
2. Forest Department at Tallend near Khalini.
3. Horticulture Department near Nav-Bahar.

It is further proposed to allocate sufficient residential land adjoining the above Departmental offices to meet with the residential requirements of the respective Departments.

The development plan also suggests to shift all the District level offices to the newly proposed Capital Complex which provides suitable accessibility and regional linkage net work. The major arteries covering from different directions at Maheli village provide excellent accessibility. Even the existing road network, that is Junga Road, Chhota Simla-Kasumpti Road, Dhalli Road and Shogi Road and Simla bye-pass taking off from Barrier, all meet at this point. Moreover, huge chunk of vacant land is available on the spur of Pantha-Ghati which would provide highly vantage site at low cost for the proposed developments. Keeping in view the space shortage, it is also proposed to shift the present District Hospital (RIPON) from its present location to the Pari-Mahal complex. The premises vacated by Ripon Hospital would be utilised for growing commercial activities in the C. B. D. The development plan further suggests to shift the P. W. D. offices from Winterfield to the proposed Capital Complex and the premises vacated by these offices are proposed to be utilised for Tourist Reception Centre and allied facilities including parking for promotion of tourism.

7.2.6 Commercial Development.—The plan envisages a hierarchal distribution of commercial facilities from Central Business Zones to Local Shopping Clusters for effective functioning on the basis of norms and space standards. In addition to the Central Business Zone presently located between the Mall and Cart Road in Simla Central Zone, seven Zonal Centres have been proposed. Further community centres have been envisaged as integral components of the Commercial centres proposed in the plan for 8,000 to 10,000 population to meet commercial and other needs at the community level.

7.2.7 Shifting of wholesale trade.—The plan envisages shifting of export oriented wholesale trade in apples and potatoes along with ancillary facilities and services from their present congested location on Cart Road to Shogi, where an organised wholesale trading centre with transportation facilities and processing industrial units has been envisaged. The site presently occupied by this activity in Simla Central Area will be redeveloped along with the Central Business Zone to accommodate wholesalers who are mainly catering to local consumption demands.

7.2.8 Public and Semi-Public Facilities.—In the development plan, public and semi-public facilities are meant to include all educational, health, civic and cultural and recreational facilities required to cater for an ultimate population by 2001 for the planning area. The requirements for each of such facilities have been worked out in relation to the ultimate population to be served at various levels of community planning adopted in this plan and appropriate allocation of land for these has been made.

So far as major educational and institutional facilities are concerned, the town has a fairly well distribution pattern as well as quantum of land under these amenities to serve the existing population. The Himachal Pradesh University along with other smaller institutions has given Simla its due place as the major educational centre in the State. To look after the increased needs

of educational facilities at college level and below, the plan has proposed site for three post-graduate colleges to be located in Totu Zone, Bharari Zone and Kasumpti Zone where major residential expansions have been planned. Besides, sites for higher secondary schools have been indicated at the rate of three sites for each community of 8,000 to 10,000 and these have been judiciously distributed. Sites for primary schools and nursery schools on the basis of norms stipulated in the plan have been left to be provided in the various areas when their detailed planning is taken up.

In the sphere of health facilities, besides the existing hospital facilities, three more sites for a general hospital with a capacity of 100 beds have been proposed one each in Totu, Bharari and Kasumpti Zones to cater to the future population. A health centre has been proposed for each community and would be located in the community centre complex besides dispensaries which will be located within the residential areas and sites for them allocated at the stage of detailed layout planning.

In regard to civic and cultural facilities the proposed seven zonal commercial centres along with the City Centre will look after most of the requirements under this group. At the local level, community centre will also provide space for community buildings in accordance with the norms and space standards proposed to be met at various levels in the plan. The city centre, during the process of its phased redevelopment, is envisaged to recognise and enlarge the existing civic and cultural facilities to meet the future demand so as to function more effectively.

Two major proposals of the plan in this direction are the creation of multi-purpose, multi-level cultural complexes, one on the Blessington Skating Rink site as mini stadium and the other on Combermere Nala site as permanent Ice-Skating Rink and allied activities with the Ridge piazza dominating the cultural scene. Besides these major proposals, a Convention Hall for indoor public meetings and gatherings has also been proposed in this area on a site abutting the Ridge. The site of Bantony near Grand Hotel is proposed for Art Gallery and State Library. The plan envisages organised and comprehensive development of zonal centres and community centres which are to accommodate various types of public amenities and services, besides shopping and commercial needs for their respective population.

Outdoor recreational facilities have been proposed to meet the requirements of both active and passive recreation of the population. While no minimum norms for organised open spaces have been prescribed owing to the nature of terrain and inevitable intervention of organised, semi-organised and natural woodlands with development use zones, certain major areas of extensive recreational use have been identified in the plan to be developed as such. These include conservation areas of Jakhu Hill Complex and Prospect Hill Complex.

For organised sports activities, a Sports Complex has been proposed to be developed at Annandale for Staging Statewide sports, events besides serving the town needs. The existing military installations and establishment in Annandale area is proposed to be shifted to the Cantonment at Jutogh. While most of the forested and undevelopable areas have been left as natural woodlands and greens, manageable pockets of these have been identified to be developed as organised and semi-organised open spaces within the residential zones and communities.

As already suggested in the strategy for this development plan, the public and semi-public facilities have been allocated according to the walking time parameters. The existing and the proposed public and semi-public facilities in the development plan are given in Table No. (2). The perusal of this table would suggest importance to the central zone. Maximum facilities have been planned for location in the Central Zone. This is followed by the Kasumpti zone because of its special function as Capital Complex. This, therefore, meets the three broad requirements that is the Tourists oriented development, the Central Business zone and the Capital City Complex requirements.

TABLE NO. (2)

Sl. No.	Facilities	Zones							Total
		Totu	Summer Hill	Bharari	Sanjauli	Tuti-Kandi	Kasum-pati	Cent-ral	
1.	Zonal Commercial Centre	1	1	1	1	1	1	1	7
2.	Community Centre	3	1	3	2	1	6	5	21
3.	Hospital	1	—	1	1	1	2	2	8
4.	College and University or Educational Institute	1	1 (Unit)	2	1	—	1	3	8
5.	High School	7	3	0	6	3	16	13	58
6.	Transport Complex	1	—	—	2	3	2	1	9

7.2.9 Water Supply.—The ultimate requirement of water supply catering the needs of the population covering whole planning area is worked out as under :—

1. Projected Population (Year 2001)	2,42,000
2. Tourist Population (Year 2001)	75,000

Requirement of water :

1. At the rate of 40 gallons/capita for permanent population ..	96,80,000 Gallons.
2. At the rate of 30 gallons/capita for tourist population ..	2,25,00,000 Gallons.
Total ..	1,19,30,000 Gallons
Say ..	1,20,00,000 Gallons i. e. 12 M.G.D.

Public Health Branch of the H. P. P. W. D. has framed a comprehensive water supply scheme at an estimated cost of 17.91 crores. This scheme envisages, the additional water supply of 7.20 M. G. D. supplementing the existing 3.00 M. G. D. supply through a phased programme as given under with respective costs:

(1) Lifting 1.2 MGD from Guma Stage-I	}	(1978—1981)	3.56 crores
(2) Lifting 2.40 MGD from Guma Stage -II		(1981—1985)	4.50 crores
(3) Rejuvenation of expansion of distribution system		(1985—1991)	7.25 crores
(4) Lifting 3.60 MGD from Sutlej River		(1991—1995)	2.62 crores
(5) Rejuvenation of existing works			
Total			17.91 crores

The scheme shall have to be augmented in the light of the projected population envisaged in this development plan, which comes to 12 MGD to meet the future requirement so as to ensure the adequate water supply.

Design of distribution system is related to the proposed land use zoning and population densities in various zones viz., Residential/Industrial etc., which are contained in the Development Plan. It will also be possible to work out a detailed distribution system for the city to cater the immediate needs as well as future demands upto the year 2001.

7.2.10 Sewerage and Drainage.—A single comprehensive sewerage and drainage system for the entire area shall not be economical as well as feasible due to the undulating terrain criss-crossed by hill spurs and valleys. The plan envisages a sub-division of the future urban area into distinct natural sewerage and drainage zones with separate sewerage disposal systems for each zone located along the beds of various nalas dividing these zones as under:—

- (1) Comprising of Sanjauli-Dhalli area along with eastern fringes of South Zone (Kasumpti area) to be drained into Kiar-Ka-Nala with treatment plant appropriately located down-stream.
- (2) Comprising of Bharari area and northern face of Central Zone comprising development around Kaithu to be drained into Nidegh Khad with treatment plant appropriately located down stream.
- (3) Comprising of Summer Hill area and northern development proposed in West Zone to be drained into Sarog Nala with treatment plant appropriately located down stream.
- (4) Comprising of most of the development in Jutogh area and Chakkar to be drained into Gurshali-ka-Nala with treatment plant appropriately located down stream.
- (5) Comprising of Kasumpti, Chhota Simla and southern face development of Central Zone to be drained into Baragaon-ka-Nala with a treatment plant located appropriately south of the Shogi-Dhalli bye-pass.

7.2.11 Electricity and Power.—Regarding electricity and power supply, there is no problem for meeting the future requirements, only there is a need to rejuvenate and augment the existing network of distribution. Regarding distribution system electric supply for major, i.e. residential, commercial and industrial, is dependent on the land use and circulation pattern of the city, which is shown in the development plan. The distribution system can be worked out in details and shall follow the major road pattern.

7.2.12 Industrial Development.—The plan envisages two major organised industrial estates for light and service industries to be developed to meet the future requirements of industrial activity projected for Simla Planning Area upto 2001. The larger of these two estimates has been sited in the Totu Zone, north of Simla-Mandi Highway (Dainla Village) along with residential area for its working population, and the other at Malyana along the Shogi-Dhalli bye-pass.

CHAPTER VIII

TRAFFIC AND TRANSPORTATION

8.1 Introduction—A workable circulation pattern backed by efficient transportation system is the mainstay of economic and socio-cultural life of a city. Even proper growth and functioning of the city and its efficient management is very much dependent on the circulation pattern and transportation system it develops and maintains. Transportation needs are inter-related intimately with land use. Judicious distribution of land use will, therefore, result in efficient transportation system. Road pattern once developed will remain for centuries, even though the building abutting these roads often undergo change in volume and use putting greater demand on the same road space. Circulation pattern of a city, thus, leaves relatively a permanent imprint on the city, which is often difficult to alter because in acquiring land it involves tremendous cost and resentment on the part of owners. In Simla, the building activities in central and surrounding areas has increased at a quite fast pace, changing its use from residential to non-residential and requiring more space for movement. The consequences of inefficient transportation system reflect directly on the economic and social functions of the city. To meet such situation, which will not only satisfy the immediate needs but also the needs of distant future to a great extent, it is essential

to have an efficient circulation plan. Proposed circulation plan envisaged for the city is the outcome of functional relationships of centre of employment, recreational and housing areas. Concept of self contained planning units adopted for the city also helps to curtail un-necessary movement. Road circulation plan provides effective linkage between all the centres of employment and residential areas.

8.2 Roads.—In view of the extremely linked role of roads in inter-city and intra-city transportation of people and goods in Simla, the circulation plan has sought to improve and expand the existing road network manifold so that the city's transportation needs may be able to be met effectively. Besides the National and State Highways entering the urban area, the Development Plan has envisaged the major road network to be comprised of arterial roads providing inter-zonal communication, major zonal roads providing main circulation channels within each zone and a supporting network of secondary zonal roads. Categories of roads of lower order have not been taken note at this stage, the same shall be evolved at the stage of detailed planning. Keeping in view, the future traffic requirements, the following rights of ways have been recommended:—

1. Arterial Road	..	18 mt. R/W	(18 mt.)
2. Major Zonal Road	..	12 mt. R/W	(12 mt.)
3. Secondary Zonal Road.	..	9 mt. R/W	(9 mt.)

18 metres right of way has been recommended for the National Highways, State Highways and Cart Road. Minimum right of way of 9 metres for a public road or a street in new development areas and a minimum of 5 metres in re-development areas. 3 metres right of way has been recommended for foot-paths.

Two major arterial roads of 18 metres right of way have been proposed in the Development Plan—one in the North taking off from Jutogh and meeting Bharari Road near Elysium Hill, the other one taking off from Cart Road near Chakkar on the southern slopes serving the new expansion proposed in Simla Central and South Zones meeting the Cart Road at St. Bede's Chowk. Similar arterial loop road below the Secretariat has been proposed running at the level between Cart Road and the bye-pass connecting Sanjauli, Bhatta-Kuffar area in the Sanjauli east. Besides these, major arterial roads, loop-roads and zonal roads within each zone to provide road transportation linkages to every part of the new development have been proposed. In the development Plan only the major road transport net-work has been proposed. Internal road net-work shall be dealt in comprehensive planning of various development areas.

8.3 Railway Goods Yard.—The existing goods yard on the narrow gauge line near Bus Stand will continue to function as it is. Storage capacity of outward shed is proposed to be increased by erecting multi-floors and thereby allowing unloading facilities for the trucks.

8.4 Truck Station.—In addition to the proposed railway outward shed, some parking space shall be provided at old Bus Stand adjoining the Ripon Hospital for facilitating the lifting of vegetable and grains to the limited whole-sale market proposed. The truck terminus is proposed in different locations of the city so as to relieve the Cart Road from off street parking.

8.5 Through Traffic.—To divert 'Through Traffic' from city, infrastructure for truck drivers and operators is proposed to be provided on Shogi-Dhalli bye-pass at different locations.

8.6 Air Linkage.—Annandale Ground shall continue to function as a helipad for special occasions. To facilitate the traffic for tourist and its hinterland, an airstrip is already proposed by Government of India at Sairi near Jutogh where a long gentle spur of a hill can be utilised for the purpose at a reasonable cost. Another alternative air strip is proposed for light aircrafts (Air Taxi services, for district to district service) at Bharari which is located at about 6 km. from the city.

8.7 Rail Linkage.—The existing rail system is by and large satisfactory. However, it is proposed to provide adequate infrastructure.

8.8 Bus Depots.—The bus depots for regional and local buses shall be located at Sundal-dhar and Malyana (below Nav-Bahar on Shogi-Dhalli by-pass) respectively. The local buses will originate from Kasumpti Bus Station to feed the entire planning area. By shifting the local Bus terminus to Malyana Depot, the same will ease the Regional Bus terminus of congestion.

8.9 Regional Bus Terminus.—The present Bus stand in the city shall have to be re-developed by merging areas of the present Bus Stand at higher terrace and also terrace of the onward goods shed. The entire complex shall have to be put up in multi-storeys for accommodating the infra-structure. The buses will originate from and terminate at the Regional Bus terminus proposed at Patina on Simla bye-pass and Sundal-Dhar. Their halting time will be 15-20 minutes. In this way, the number of idle buses will be reduced and the Bus station will be able to function effecting with lesser space.

8.10 Bus Stands.—Bus stands are proposed to be provided in city centre, all zonal centres namely: Kasumpti, Sanjauli, Bharari, Summer Hill and Totu.

8.11 Parking.—Parking places for private vehicles shall be conceived in conjunction with major residential areas. Owing to the obvious limitations of vehicular accessibility to individual hours and work centres individual parking facilities for private cars will be rather limited and public parking spaces to be used on rental basis by private car-owners have become necessary to be provided. Off street parking has its own limitation, the many turns and bends of roads over 'Nala' should be made use of by covering of the 'Nala' beds in more than one levels for parking of vehicles.

8.12 Whole-Sale Trade.—The plan envisages shifting of export-oriented whole-sale trade in apples and potatoes along with ancillary facilities and services from their present congested location on Cart Road to Shogi where an organised whole-sale trading centre with transportation facilities and processing industrial units has been envisaged. The site presently occupied by these activities in Simla will be re-developed.

8.13 Re-location of Coal Depots.—The existing shacks occupied by coal depots on the Cart Road near Bus Terminus are proposed to be re-located on a site south of the Railway yard with railway un-loading facilities which on one hand will provide large workable space to this activity and on the other facilitate smoother flow of traffic on this congested section of Cart Road.

8.14 Aerial Ropeways.—It is proposed to connect 5 spurs of the city namely, Kasumpti, Bishop Cotton School, Khalini, Kanlog and Tuti Kandi besides Annandale by aerial rope-ways so as to utilise potential of the area and also to disperse future growth trend of the city.

8.15 Re-locations of Timber Shops and Godowns.—The Development Plan envisages re-location of timber godowns and establishments from their present congested location near Blessington (Skating Rink) site to two multi-level parking-cum-godown developments envisaged to be erected on the Cart Road on either side of Snowdon Medical College and Hospital complex by bridging over the horse-shoe bends on the Cart Road.

8.16 Service Garrages.—Service garrages have been proposed in different parts of the city like Shogi-Dhalli bye-pass near Pari-Mahal, Ghora-Chowki and Simla-Mandi Highway.

8.17 Service Industries.—Government run service industry at Tara Devi, Ghora Chowki and Dhalli shall continue to function on the present location. The site for the service industries is proposed at Kamla Nagar on Shogi-Dhalli bye-pass, to relieve the NH-22 road from congestion at Dhalli. Obnoxious industry shall be located at Anandpur on Shogi-Dhalli bye-pass on the

spur adjoining to railway line. To cater to the future demand of service industry, Fatnechi spur on Simla-Mandi State Highway is earmarked.

Area proposed for transportation network is shown as per Table-I.

TABLE NO. I
SIMLA—TRAFFIC AND TRANSPORTATION—2001

Sl. No.	Traffic Infra-structure	Area in Hectares	Remarks
1.	Proposed major roads	92.0	—
2.	General Parking	2.0	—
3.	Parking-cum-Warehouse	1.5	—
4.	Bus Terminus	1.0	—
5.	Regional Bus Depot	7.0	—
6.	Local Bus Depot	4.5	—
7.	Truck Terminus	4.0	—
8.	Service Garrages	1.0	—
9.	Service Industry	45.0	This include service industries at Shogi on Shogi-Dhalli bye-pass and Fatnechi on Simla-Mandi State Highway.
10.	Whole Sale Trading	5.0	Wholesale trading is proposed at Shogi.

CHAPTER IX

ECOLOGICAL CONSERVATION AND ENVIRONMENTAL CONTROL

9.1 Criteria.—Simla city being one of the most important tourist hill resorts, needs special consideration in the conservation of ecological order. There are certain belts which are environmentally rich and need conservation. However, according to the planning approach, the ridge areas of Simla Hill Range could be developed only for tourist infra-structure. In this context, it is perhaps imperative that such vantage areas are identified and developed for botanical and zoological gardens. Besides, development should go in such a way that there is a suitable compromise between the settlement pattern and natural ecological order. The city hub centre is one of such peculiar example where settlement pattern has eroded most of the ecological values which has also gone in a big way towards environment distortion.

There are still a large number of pockets/areas which can be developed from preservation point of view. These areas include whole of the northern spurs which are highly forested, shady, besides, having sinking and sliding characters, which go against human settlement requirements. Besides this, there are other areas like Glen, Chadwick Fall towards west of the city, Jakhu hill, Prospect Hill, Mashobra and Naldehra, Chharabra and Kufri which are serving as a breathing spaces for the tourists and also provide suitable environment for picnic, resting resorts etc.

An analysis of the existing land-use structure of this planning area would reveal that almost 50% of the land is under forest. Therefore, what is important on the whole, is to conserve forest pockets and develop them into city forests. This would solve the problems of space for parks and other recreational uses.

9.2 Environment Control.—Environment in this city has been continuously deteriorating for the number of reasons and a few of these are highlighted as below:—

9.2.1 Although Simla has a service character from functional point of view, yet the city appears to be suffering from smoke pollution especially during winter months. The smoke produced in this city during the winter months is so much that it looks to be highly industrialised city. This sort of air pollution problem as a result of smoke produced out from the household chimneys create suffocation for the winter tourists. Although there is no immediate solution to this problem, yet efforts can be made to overcome this problem by way of increasing the cooking gas supply, central heating in the public and semi-public organisations on the basis of Himachal Pradesh Secretariat and adequate supply of electricity at reasonable rates.

9.2.2 Basically this city is known for its pedestrian character. As a result of increased vehicular traffic, the streets and lanes of this city have become dusty, noisy and risky for pedestrian walking. It is, therefore, imperative that specific walkways are designed and sealed for vehicular traffic on the pattern of Mall Road.

9.2.3 Ruthless deforestation and settlement pattern has also created environmental pollution. In some of the localities the land has started sliding because of deforestation and heavy building activities, and in thick settlement areas sun and shade has become one of the major factors which now deserve special consideration in deciding space and height zoning of various buildings. Not only this, un-regulated and un-planned growth of buildings, has narrowed down the street pattern and also created problem for mechanical garbage removal as also for surface water and sewerage disposal. For this, it is important to implement the development plan in its spirit and letters and certain areas are prohibited for heavy construction and developmental activities. Only a planned development can overcome these types of hazards.

9.2.4 City infra-structure such as water supply, sewerage net-work, road pattern, which have limitation to cope with the increased requirements, has gone a step ahead for distorting the environment. For example old sewerage net-work confined to a specific and limited areas, is not catering the new localities and also to the increased requirement of population as a result of which manual and field latrine have assumed an alarming proportion. Similarly, water supply, being acute by short of requirement, hardly serves the need of human consumption leaving aside other requirements. The sub-urban infra-structural facilities need to be suitably planned keeping in view, the perspective city requirements. In this connection, it is important to prohibit the field latrines and encourage sanitary latrines with septic tanks etc., and a comprehensive sewerage and water supply networks, covering the 30 years planning period, is built up. Cowdung heaps should be prohibited and this should be dumped in specific areas. Dairy farms should also be permitted in the specific areas only.

9.3 Sewerage Disposal.—At present most of the sewer of the city is drained untreated into the adjacent nullahs/khuds. There is no provision for the treatment of sewer produced by the city. The natural drainage system in the peculiar topography of Simla like situations, plays an important role for determining the sites/locations for the sewer disposal. The second important criteria in this regard is the size and the development pattern which has already taken place and proposed for the perspective planning period. Keeping in view, the aforesaid criteria, 6 sites are suggested for the treatment of the sewer as below:—

1. Below Lalpani catering 'down town' areas.
2. Near Baragaon to cater Chhota Simla Complex.
3. Below Annandale catering northern slopes and Bharari Hill.
4. Below Badheri catering Cantonment Area at Jutogh/Totu etc.
5. Below Summer Hill towards Chaily.
6. Below Sanjauli.

9.4 Garbage Disposal.—The present system of garbage disposal along the State Highway is not good. This creates vulture nuisance and abnoxious gases. It is, therefore, important that incineration plants in all important localities are installed or the grabage is dumped in the trenches.

9.5 Other Non-compatible uses.—Besides above, it is also necessary that suitable sites for crimatorium, grave yards, Dhobi Ghats, are suitably located. For surface drainage, it is essential to improve all the nullahs and surface drainage system. This would help to overcome erosion problems. In the sinking and sliding area, it is imperative to start plantation and check dam works.

9.6 Slum improvement.—In the slum areas, it is suggested to undertake improvement programmes in a systematic way. In the first instance, it may include better sanitary facilities, improved lanes, improvement in the surface drainage system etc.

CHAPTER X

PLANNING ADMINISTRATION

10.1 Administration.—For the effective implementation of the Development Plan, it is perhaps imperative that the plan is administered by a Single Agency charged with the responsibility for the efficient implementation of the development proposals adumbrated in the Development Plan. Experience shows that the Development Plans in most of the cases are not being properly implemented because of the multi-nucleated agencies like Municipal Government, Cantonment Boards, Housing Board and Public Works Department besides a number of Public and Semi-public Agencies charged with the development works. It is, therefore, suggested in the interest of effective implementation of this Development Plan that multi-nucleated agencies be done away with and a Single Authority is made responsible for the whole task of the city re-construction. In Himachal Pradesh, Town and Country Planning Act, 1977, there is a provision under section 67 for the creation of such an Authority to be known as "Special Area Development Authority" which would be responsible not only for the planning and development but also for the proper maintenance of the town under the Himachal Pradesh Municipal Act, 1968, thereby doing away with dual administration, in the planning area.

10.2 Financial Administration.—For the swift implementation of Development Plan, it is suggested that the proposals given in the Development Plan are integrated with the fiscal plan, which can be achieved through a proper co-ordination between the Town Planning Agency and the State Planning Board. There is a need to convert physical planning proposals in the fiscal proposals by way of annual planning and five year planning. Therefore, an exercise at State Planning Board level is perhaps important to allocate annual budget for city requirements envisaged in the development plan to be executed through the Special Area Development Authority or Town and Country Development Authority charged with the responsibility in accordance with the city development programme.

10.3 Phasing.—Effective realisation of the long term development proposals for an urban area requires formulation of a systematic programme of phased development in the first instance. This is imperative in order to ensure that while development proposed to be undertaken during a specific period would be able to cope with demands generated during the same period. unhealthy speculation on urban land and its development, and lop-sided and sporadic development in other part of the Planning Area on the basis of the long term plan, would also not be allowed to take place un-necessarily burdening the local body on one hand and disrupting the functional relationship of various uses on the other. Further, realisation of a set of development proposals have to be related to the financial resources available and likely to be made available during a specific timeperiod which in the present system of budgetary allocations to State Governments and Local Bodies relates to a five-yearly period of development. It follows therefore that the

Development Plan proposals upto 2001 for Simla Planning Area need to be broken down into five-yearly development programmes and integrated with the five-year plans of the Himachal Pradesh Government so that budgetary allocations under various development heads are able to be earmarked for a phased realisation of the development proposals.

It needs hardly be emphasised that the present Development Plan for Simla Planning Area is primarily intended to be a guide to its future development pattern upto 2001 and Sectoral plans and schemes which will be more detailed in their content and comprehensive in outlook will require to be drawn up first, identifying the various areas of development and redevelopment to be taken up during the various phases of development upto 2001 on the basis of which the development programmes and fiscal plans may be formulated. At this stage it is not possible to give a detailed five-yearly development perspective to carry out the development proposals envisaged in the development plan, but the following broad stages of development can be identified which would require to be further detailed out on the basis of the sectoral plans. However integrated city development programme is separately being worked out.

10.3.1 First Phase Programme.—Development proposed to be undertaken during this period would be more in the nature of an immediate action programme of development and should be directed to cater primarily for meeting the Governmental and private housing needs; declaration of Re-development Areas and Conservation Areas and undertaking formulation of their redevelopment plans and programmes, improvement and widening of existing vehicular artery viz., the Cart Road with organised facilities for bus, taxis and truck terminals and provision of parking facilities, completion of the new southern vehicular road from Police Barrier to Kasumpti, and undertaking development works at Shogi for gradual shifting of wholesale trading activity in apples and potatoes from the present location to facilitate taking up a re-development programme for the area of their existing location.

It is proposed that in order to meet the immediate housing and office accommodation demand, development proposals made for Kasumpti, Chhota Simla zone may be undertaken along with its major commercial centre during this phase. Besides this infilling of additional developable areas in Simla central zone earmarked for residential use along with first phase development of commercial centre may also be taken up. Simultaneously a quick analysis of the Redevelopment Area may be undertaken to identify a broad redevelopment framework and this work be given top priority.

Other major works proposed to be undertaken during this phase are as under:—

- (i) The Kalka-Simla road from the point it enters the city limits in the west upto the point it leaves the city in the east should be increased wherever possible upto 15 metres right-of-way with ultimate scope of ensuring a 24 metres right of way. The laying of new road already under construction south of the Cart Road taking off from near Police Barrier in the west and joining the Cart Road near St. Bede's Chowk in the east should be expedited so that the areas lying below towards the south of the Cart Road are made more easily accessible.
- (ii) The multi-level development proposals for Regional Bus Terminal Complex by merging Railway inward, outward Goods Sheds and Coal depots should be taken up. Parking areas in various parts of the city in accordance with the proposals framed in the Development Plan should be created urgently.
- (iii) The multi-level ware-housing and parking project proposed near Snowdon Hospital area on Cart Road may be implemented for re-locating timber yard and storage establishments.
- (iv) First phase of development of the area earmarked for siting an Air Strip in Bharari zone may be carried out so that this may be ready for District to District Air Taxi service.
- (v) Development of Shogi for export-oriented wholesale trade.

- (vi) Development of the Service Garrages area in Kamla Nagar near Bhatta Kuffar may be taken up and implemented.
- (vii) Development of new residential areas around Kasumpti should be taken up on a comprehensive basis including provision of all public and semi-public facilities and services in accordance with suggested norms and space standards.
- (viii) Water supply augmentation scheme from existing sources as well as additional source to be tapped should be taken up immediately for phased implementation, work on which would also be carried over to the next phase.
- (ix) Further work for development of a multi-level warehousing-cum-parking-cum-cultural complex on the Combermere nala site may be undertaken within the overall frame of re-development of existing central area.
- (x) The proposed tunnel-link on the Cart Road near Snowdon Hospital Complex should be constructed.
- (xi) Development of Industrial Area proposed to be established near Jutogh be taken up along with residential sectors earmarked for industrial housing.
- (xii) Development of proposed Recreational Zone stretching from Annandale upto University Site may be taken up comprising of a Sports Complex at Annandale and Zoological Park in this Zone may be completed, the remaining development left to be carried out in the subsequent phase. For this purpose, it would be necessary to prepare a detailed development scheme for this area.
- (xiii) Development of Jakhu Hill Area zoned for the conservation and development of a wooded park picnic spots, and extensive recreational areas may be taken up for implementation.
- (xiv) First phase programme of re-development of Central Business Area between the Mall and the Lower Bazar may be undertaken. Development of cultural-cum-recreational complex including construction of open air theatre may be taken up on the northern side of the Ridge near the Blessington with pedestrian access from the Mall and vehicular access from the Cart Road.
- (xv) Full development of subsidiary centres of Shogi, Kufri and Junga may be taken up during this phase of development.

10.4 Zoning Concept.—The activities in the preparation of Development Plan and Zoning Plans of Simla will not improve this city life in any way, unless sustained efforts are made to enforce and implement these plans. In building a city/town, a major role is often played by the citizens, individually or collectively, by undertaking constructions, reconstructions and development of land for various uses, co-operation of citizens in town/city improvement is, therefore, of utmost importance. The Town and Country Planning Organisation will provide necessary guidance by rendering technical advice and by arranging proper scrutiny of the building activity so as to ensure that the proposed constructions conform to the proposals contained in the approved Development Plan. Effective enforcement of the plan will now be possible because as per provisions of the Himachal Pradesh Town and Country Planning Act, 1977, all developments to be undertaken by individuals, public sector undertakings, semi-Government bodies, Central and State Government Departments shall be subject to technical scrutiny of various provisions contained in the Chapter VI of said Act regarding control of development and use of land.

Effective control particularly on change of land-use within planning area will be feasible, because existing land-use maps have been duly published *vide* No. Dir. 1/77....., dated 29-12-1977, and adopted *vide* No. Dir. 1/77....., dated 14-3-1978, under section 15 of the Himachal Pradesh Town and Country Planning Act, 1977.

Implementation of Interim Development Plan will be undertaken exclusively by the Town and Country Development Authority established under section 40 of the Himachal Pradesh Town and Country Planning Act, 1977. Besides this, other Government Departments and Autonomous Bodies such as Public Works Department, M.I.D.C., H. P. H.B.,

H.P.T.D.C. etc., will also be undertaking construction within their respective fields of activity. This will add to the process of implementations of the development plan. It will, however, be desirable to co-ordinate constructional activities of various Government and Semi-Government Organisations in terms of location, designs etc. This will ensure quick returns and benefits.

Zoning Regulations in respect of various land use zones, are given as under:—

10.4.1. Zoning Regulations.

10.4.1.1. Explanatory Note.—Zoning Regulations have been widely accepted as legal instrument of control and promotion of development and, in fact, it is the Zoning Regulations that an ordinary developer comes into contact with while undertaking the development within the frame-work of any Plan. Thus, Zoning Regulations do a great service in correctly portraying the intention of the Plan and promoting its objectives.

Zoning Regulations would help in controlling density of development and land use, in ensuring protection of open areas, light and ventilation standards, and in providing for future expansion in each zone in an appropriate manner.

10.4.1.2. General Regulations Governing Development.—The following general regulations shall apply to all development activity in the Simla Planning Area.

(i) The requirements of these regulations within each zone shall be the minimum requirement and shall apply uniformly to each class or kind of structure or land, except where specific provisions apply.

(ii) No building structure, or land shall hereafter be used or occupied, and no building or structure or part thereof shall hereafter be erected, re-erected or materially altered, unless in conformity with all the regulations herein specified for the zone in which it is located.

(iii) No building or other structure shall hereafter be erected, re-erected or materially altered:—

- (a) to exceed the height;
- (b) to accommodate or house a greater number of families;
- (c) to occupy a greater percentage of plot area;
- (d) to have narrower or smaller rear yards, front yards, side yards, or other open spaces; than herein required, or in any other manner contrary to provisions of these regulations.

(iv) No part of a yard, or other open space, or off-street parking or loading space required about or in connection with any building for the purpose of complying with these regulations shall be included as part of a yard, open space, or off-street parking or loading space similarly required for any other building.

(v) No yard or plot existing at the time of coming into force of these regulations shall be reduced in dimension or area below the minimum requirements set forth herein. Yards or plots created after the effective date of these regulations shall meet at least the minimum requirements established by these regulations.

(vi) All territory which may hereafter be annexed to the city shall be considered to be zoned in the same manner as the contiguous territory inside previous city limits until otherwise classified.

(vii) No building or other structure shall be erected, moved, added to or structurally altered without the plan/scheme is approved for zoning conformity issued by the Director Town and Country Planning Organisation.

(viii) Areas zoned for public and semi-public, open space shall not be built upon in any way or used for purposes other than parks, playgrounds and other recreations. They may however, with the permission of the Director, Town and Country Planning Organisation be permitted temporarily for a period not exceeding 30 days, to be used for public entertainment purposes. Structures that may be erected for such entertainment purposes shall be removed at the end of the period and shall in no case be permanently erected. Structures to be built temporarily shall conform to such regulations which the Director, Town and Country Planning Organisation may deem fit to impose.

(ix) The height limitations of these regulations shall not apply to churches, schools, hospitals and other public and semi-public buildings, provided it is so designated and approved by the Director, Town and Country Planning Organisation.

Chimneys, elevators, poles, spires, tanks and other projections not used for human occupancy may extend above the prescribed height limits.

Steps not exceeding 20 square feet in area, caves, cornices, and window sills may project into any required yard.

(x) No development of any kind shall be allowed within the area designated as redevelopment area, unless specifically permitted by the Director in the interest of planned growth. In all such cases the zoning regulations shall be given by the Director and his decision shall be final.

(xi) In public interest and in the interest of town design or any material consideration the Director may permit more number of storeys, coverage and density. The decision of the Director shall be final.

(xii) *Number of storeys and set backs from vehicular/pedestrian ways.*—If otherwise not specified, under these regulations, various set backs and number of storeys for different types of roads (existing as well as proposed) in the Simla Planning Area shall be as under from the edge of the road. (ROW).

Sl. No.	Name/Category of the Road	Hill Side		Valley Side		
		Min. Set Back Mtrs.	Max. No. of Storeys.	Min. Set Back Mtrs.	Max. No. of Storeys.	
1	2	3	4	5	6	
1.	The Mall Road starting from Boileauganj Police Station to Terreyne Post Office, Chhota Simla, except Bazar Area as per Sl. No. 2.	7.5	3	7.5	3	Provided that the roof level does not exceed the road level.
2.	The Mall Road Bazar Area starting from Telegraph Office to Craigs Villa (Near Rock-sea Hotel).	7.5	3 with facade Control.	Existing Buildings line to be maintained.	2	With Facade Control
3.	Sanjauli Mall Starting from Ridge to Sanjauli Chowk except-Lakkar Bazar.	7.5	2	7.5	2	Provided that the roof level does not exceed the road level.
4.	Lakkar Bazar, starting from Ridge to Police Chowk.	3	2	3	2	-do-
5.	Road from Chaura Maidan to Rashtera-pati Bhawan Chowk <i>via</i> Ava Lodge.	7.5	3	3	3	-do-
6.	Road from Rashtera-pati Bhawan Chowk to Summer Hill.	7.5	3	3	3	Provided that the roof level does not exceed the road level.
7.	Circular Road <i>i.e.</i> Cart Road starting from Victory Tunnel and passing through Bus-Stand, Bemloi, Chhota-Simla, St. Bede's Chowk, Long-wood, Ice-Skating Rink, Kaithu and joining again the Victory Tunnel.	7.5	3	7.5	3	-do-
8.	Vehicular Road from Victory Tunnel to Tare Devi, H.P. P.W.D. Workshop & Simla, Mandi Road within Planning Area except Boileauganj Bazar and Jutog Cantonment Area.	7.5	3	7.5	3	-do-
9.	Vehicular Road from Sanjauli Chowk to Junction of Tattapani Road except Bazar Area of Sanjauli and Dhuli:	7.5	3	7.5	3	-do-

10.	Chhota Simla Chowk to Junga Road Junction except Chhota-Simla Bazar and Kasumpti Bazar.	7.5	3	3	3	—
11.	Chhota Simla Bazar starting from Chowk to Boundary Estate:	7.5	3	3	3	Provided that the roof level does not exceed the load work.
12.	Kasumpti Bazar starting from Hari Villa to Jammu Castle Hill Temple.	3	3	3	3	—
13.	Sanjauli Bazar	3	3	3	3	—
14.	Dhalli Bazar	3	3	3	3	—
15.	Proposed Southern Road starting from Barrier (Kalka-Simla Road) to Peri Mehal via Tuti-Kandi, Phagli, Khalini.	7.5	3	7.5	3	Provided that the roof level does not exceed the load work.
16.	Proposed Northern Road Starting from Jutogh to Bharari via Summer-Hill Annandale.	7.5	3	7.5	3	—
17.	All other vehicular roads proposed or existing	4.5	3	3	3	—
18.	All other pedestrian routs/jeepable routes except Jakhoo Complex.	3	3	3	3	—
19.	Dhalli Tunnel to Dhalli Bazar	7.5.	3	7.5	3	Provided that the roof level does not exceed the load work.
20.	Boileauganj Bazar	3	3	2	3	—
21.	Jakhoo complex for the areas not covered by the above mentioned table, following set back and heights shall be followed:	2	2	2	2	—

Note.—Jakhoo Complex—Area bounded by (i) Cart Road from St. Bede's to Sanjauli Chowk (ii) Sanjauli Chowk to Ridge via Snowdon Hospital (iii) Ridge St. Bede's via U.S. Club, Forest Hill etc.

10.4.1.3. Regulations governing non-conforming uses.—Within the zones established by these regulations or amendments that may later be adopted therein, existing plots, structures and uses of land and structures which were lawful before these regulations came into force or where amended, but which would be prohibited, regulated or restricted under the terms of these regulations or future amendments, shall be permitted till such date and time, the Director may allow to continue under the provisions of Section 26 of Himachal Pradesh Town and Country Planning Act, 1977. Such nonconformities shall not be enlarged upon, expended or extended, nor be used as grounds for adding other structures or uses prohibited elsewhere in the same zone.

A non-conforming use of a structure, a non-conforming use of land, or a non-conforming use of a structure and land shall not be extended or enlarged after coming into force of these regulations by attachment on a building or premises of additional signs intended to be seen from off the premises or by the addition of other uses of a nature which would be prohibited generally in the Zone involved.

(i) *Non-conforming uses of land.*—Where, on the date of coming into force of these regulations or amendments thereto lawful use of land exists that is made no longer permissible under the terms of these Regulations as enacted or amended, such use may be continued, so long as it remains otherwise lawful, subject to the following provisions:—

- ✓ (a) No such non-conforming use shall be enlarged or increased nor extended to occupy a greater area of land than was occupied on the date of coming into force of these regulations or amendments thereto.
- (b) No such non-conforming use shall be moved in whole or in part to any other portion of the plot or parcel occupied by such use on the date of coming into force of these regulations or amendments thereto.
- ✓ (c) If any such non-conforming use of land ceases for any reason for a period of more than 30 days, any subsequent use of such land shall conform to the requirements specified by these regulations for the zone in which such land is located.

(ii) *Non-Conforming structures.*—Where a lawful structure exists on the date of coming into force of these Regulations or amendments thereto, that could not be built under the terms of these Regulations by reason of restrictions on area, plot coverage, height, yards or other characteristics of the structure or its location on the plot, such structure may be continued so long as it remains otherwise lawful, subject to the following provisions:—

- ✓ (a) No such structure may be enlarged or altered in a way which increases its non-conformity.
- (b) Should such structure be destroyed by any means to an extent of more than 50 per cent of its replacement cost at the time of destruction, it shall not be re-constructed except in conformity with the provisions of these regulations.
- (c) Should such structure be moved for any reason for any distance whatever, it shall thereafter conform to the requirements for the zone in which it is located after it is moved.

(iii) *Non-conforming uses of structures.*—If a lawful use of structure, or of structure and premises in combination, exists on the date thereto, of coming into force of these regulations or amendments that would not be allowed in the zone under the terms of these regulations the lawful use may be continued so long as it remains otherwise lawful, subject to the following provisions:—

- (a) No existing structure devoted to a use not permitted by these regulations in the zone in which it is located shall be enlarged, extended constructed, re-constructed, moved or structurally altered except in changing the use of the structure to a use permitted in the zone in which it is located.
- (b) No such non-conforming use shall be enlarged or increased or extended to occupy

a greater area of the building than that occupied by such use at the time of coming into force of these Regulations or amendments thereto.

- (c) Any structure, or structure and land in combination, in or on which a non-conforming use is superseded by a permitted use, shall thereafter conform to the requirements of these Regulations for the zone in which such structure is located, and the non-conforming use may not thereafter be resumed when a non-conforming use of a structure, or structure and premises in combination, is discontinued or abandoned for six consecutive months or for 18 months during any three years period, the structure or structure and premises in combination, shall not thereafter be used except in conformance with the Regulations for the zone in which it is located.
- (d) Where non-conforming use status applied to a structure and premises in combination, removal or destruction of the structure shall eliminate the non-conforming status of the land.

10.4.1.4. Regulations applicable to each Land use Zone.—The following general Regulations shall apply to each of the land use zones specified below:

(A) Residential Zone:

(a) Uses Permitted.—Residences, Hospitals, Boarding Houses, Nurseries, Kinder-gartens and Schools, Clinics, Social and Cultural Institutions; Public utilities and Buildings, except service and storage yards; agricultural gardens, nurseries and Green Houses; any neighbourhood recreational uses including clubs and other Semi-public recreational uses; accessory uses clearly incidental to residential uses which will not create a nuisance co-hazard.

(b) Uses that may be permitted on special grounds by Director, Town and Country Planning Organisation.—Places of worship, professional offices when situated in the same dwelling as the one occupied by the professional man or woman when located in shopping centres; commercial offices, service uses and retail shops of a neighbourhood character when located in local shopping centres or in concentrated locations or as shown in the zonal plan when prepared; Hotels, Hospitals and Sanatoria not creating contagious diseases or mental patients; raising of poultry for non-commercial uses provided that no bird is housed closer than 5.0 metres of a dwelling or a property line; removal of gravel, clay, sand or stone for development of site which will not result in the stagnation of water or cause other nuisance, terminals, rail passenger and freight stations; taxi and rickshaw stands.

(c) Uses prohibited.—All uses not specifically permitted herein. Further all uses mentioned herein shall not be permitted to use machinery involving more than three horse power in capacity.

(d) Minimum size of Plot.—(i) The minimum area of the residential plot in this zone shall be 150 sq.m. where new sub-division of land is effected. Such sub-division would need an approval of the Director, Town and Country Planning Organisation. The Director may relax the minimum area requirement in a particular case owing to topographical constraints or location of the plot or any social benefit scheme launched by the Government/Semi-Government Organisations.]

(ii) The plot area as mentioned in clause (i) above would not be applicable in the cases where the sub-division of land has taken effect before the commencement of Interim/Development Plan.

(iii) The minimum area of a plot for residential development on Group Housing basis shall be 0.5 Hectares.

(e) Plot Coverage.—The minimum permissible coverage on a plot of the size mentioned in

column I below shall be as shown in Column 2 below:—

(i)	(1) Size of Plot	(2) Maximum Coverage
(i)	Upto 250 sq. m.	75 % of the area of the plot.
(ii)	above 250 sq. m.	60 % of the area of the plot.

(f) **Maximum No. of storeys.**—If otherwise, not specified under these Building Regulations the maximum number of storeys shall not exceed three storeys.

(g) **Set Back Lines.**—(a) (i) **Front Set Back** If the plot is located on the vehicular road/pedestrian path as shown in col. 2 of table 10-4-12 (xii), the minimum front set back of the building from the edge of the vehicular road/pedestrian path shall be as in columns 3 and 5 of above table as the case may be.

(b) In all other cases every building shall have a minimum front set-back of 2 metres from the boundary of the plot.

(ii) **Rear by side Set Back.**—On a plot on which a detached building is allowed to be erected such a building shall have a rear and side set back from the boundary of the plot of at least 1.00 metre width for a plot less than 250 sq. m. and 2.5 metres rear and sides for a plot above 250 sq. m. On a plot on which a semi-detached building is allowed to be erected, such a building shall have a side set back of 3.0 metres width on one side for a plot less than 250 sq.m. and 5 metres on one side for a plot above 250 sq. m.

Note.—Set-backs are not compulsory in the case of existing buildings, but these provisions will apply in case of re-erection of the building on individual plot basis.

In case of Group Housing, these requirements shall not apply unless otherwise specified.

(iv) **Irregular size of plots.**—Set back shall be governed by the average width of the plot and shall be governed by the set-backs prescribed for the corresponding regular plot size.

(v) **Heights of Buildings.**—If otherwise not prescribed heights of buildings may be as fixed by the Director, Town and Country Planning Organisation, in the public interest and in the interest of urban design or any other material consideration. The decision of the Director shall be final.

(B) Commercial Zone:

LOCAL, CENTRAL, WHOLESALE AND WAREHOUSING ZONE

(a) **Size.**—The size of the plot will depend on the approved layout of the commercial area.

(b) **Coverage.**—The maximum permissible coverage shall be as provided in the approved layout plan.

(c) **Set-back.**—Every building shall be set back as provided below:—

(i) **Front Set back.**—In a new development, front set back shall conform to the layout approved by the Director. In existing areas, no front set-back is necessary, but if the building is to be re-erected it should conform to an uniform building line as given in the table vide section 10.4.1.2. (xii).

(ii) **Rear Set-back.**—Every building shall have a rear set-back of a minimum distance of one metre from the boundary line of the plot alongwith the restrictions, relating to light and air plan.

(iii) **Side Set-back.**—Side set backs are not compulsory except in cases where light and ventilation to habitable rooms are to be taken from the side of the building.

(d) **Building abutting on two streets.**—If a building abuts on two or more streets of different widths, the building shall be deemed for the purpose of this bye-law to face upon the street that has the greater width.

(e) **Use permitted.**—Retail shops including business and professional offices, services like barbers, tailors, laundry, dry cleaners, restaurants, and entertainment places like Cinema, Theatres, Specialised Markets, Whole Sale Markets, Regulated Market, Warehousing and Godowns, Building Material Yards, Parking Areas.

(f) **Use that may be permitted on special ground by Director, Town and Country Planning Organisation.**—Petrol filling Stations, Service Stations, Coal Wood, Timber Yards, flatted factories service industries which do not cause nuisance small workshops, repair shops.

(g) **Number of Storeys.**—In new development, not more than 3 storeys construction shall be allowed in commercial centres. However, this is relaxable for the preparation of zonal plans keeping in view the topographical constraints.

Hostels, Hotels, Public and Semi-Public Buildings may be allowed upto 5 storeys at the discretion of Director.

In the existing development, these restrictions shall not apply except when the building is fully re-erected and should conform to uniform building line as given in the table *vide* 10.4.1.2. (xii).

In the case of central commercial area, development shall be governed by the provisions of the re-development scheme for the areas.

(h) **Construction of Cinema.**—The cinema auditorium will be permitted in specified commercial areas. Planning standards for cinema premises shall be worked out at the rate of 3.7 sq. metres per seat capacity of the auditorium—

(i) Coverage	50 %
(ii) Minimum set-backs:	
Front	10 Metres.
Sides	5.5 Metres.
Rear	5.5 Metres.

(C) Public and Semi-Public Facilities Zones:

(a) **Uses Permitted.**—(i) Educational, Cultural and scientific institutions and their accessory uses; dwellings for the inmates of the institutions, non-commercial hostels.

(ii) Health facilities along with their ancillary uses, including their residential dwellings.

(iii) Other public and semi-public facilities as decided on the basis of common usage by the Director.

(b) **Use that may be permitted on special grounds by the Director, Town and Country Planning Organisation.**—Any use permissible in residential zone, subject to the coverage, height, set-backs of this zone.

(c) **Plot Coverage.**—The maximum coverage in each case shall be decided by the Director.

(d) **Number of Storeys.**—Number of full storeys in this zone shall not normally exceed 3, although the Director may allow construction upto 5 storeys in special cases.

(e) **Set Backs:**—

(i) **Front set back.**—There shall be a minimum front set back as per table given *vide* 10.4.1.2. (xii).

(ii) **Side set back.**—There shall be a minimum side set back of 3 metres on either side.

(iii) **Rear set back.**—There shall be a minimum rear set back of 6 metres.

Note.—Existing institutional buildings in zones other than in this zone may be permitted on special grounds by the Director, to construct buildings according to the requirements of that

particular zone, provided other requirements such as parking open space, play-grounds etc. are satisfactorily met.

(D) Industrial Zone:

SERVICES AND LIGHT MANUFACTURING INDUSTRY

(a) **Coverage.**—The maximum coverage on the plots of the sizes mentioned in column 1 below shall respectively be as shown in column 2 below:—

Size of plot

Upto 1000 sq. m.

Above 1000 sq. m. and upto 5000 sq. m.

above 5000 sq. m.

Coverage on each floor

75 % area of plot.

60 % area of plot.

50 % area of plot.

(b) Set Back

(i) front set back:

The Building in a plot of the area shown in column 1 shall have minimum front set back as shown in column 2 below:—

Area of the Plot:

Minimum set back from the boundary of the plot.

Upto 5000 sq. metres

Above 5000 sq. metres

6 Metres.

15 Metres.

(ii) **Rear Set Back.**—The building in a plot of the area shown in column 1 shall have minimum rear set back as shown in column 2 below:—

Area of the plot

Minimum set back

Upto 5000 sq. metres

above 5000 sq. metres

6.0 Metre

15.0 Metres.

(iii) **Side set back.**—The building in a plot of the area shown in column 1 shall have a minimum side set back as shown in column 2 below:—

Area of the Plot:

Minimum set back

Upto 5000 sq. metres

above 5000 sq. metres

4.0 Metres

6.0 Metres

(E) Recreational Zone and Public and Semi-Public open spaces, Parks and Play-grounds:

(a) **Uses permissible.**—Sports Stadium, Swimming Pools, Gardens, Play-Grounds, Winter Sports, Golf Courses, Botanical, Horticultural and Zoological Parks and other recreational uses requiring extensive open spaces.

(b) **Uses that may be permitted on special grounds by the Director, Town and Country Planning Organisation.**—Theatres, Public Assembly Halls etc., Tourist Accommodation, Transient Visitor's Camp on permanent basis and public buses, Taxi, Rickshaw Stands.

(c) **Uses Prohibited.**—Dwellings except of watch and ward personnel and other uses not specifically permitted herein.

(F) Agricultural Zone:

(a) **Uses Permissible.**—Dwellings for the people engaged in the farm, farm houses and accessory buildings, agriculture, horticulture, Dairy, poultry farms, stables for animals rearing and breeding, processing and sale of farm produce; petrol and other fuel filling stations, schools, libraries, religious buildings, public utility buildings.

(b) **Uses that may be permitted on special grounds by the Director Town and Country Planning Organisation.**—Quarrying of gravel, sand, clay or stone, lime kilns, brick kilns, show room, workshops for servicing and repair of farm machinery and service stations on fixed tenure basis, cold storage, godowns for food, seeds, Fertilizer, Agriculture/Horticulture equipments.

(c) **Uses prohibited.**—All other uses not specifically permitted herein. Regulations for residential zone would normally apply to this zone. Temporary constructions would be permitted only with the prior permission of the Director.

10.5. Control on Sub-Division of land.—Sub-Division of land into plots amounts to 'Development' under Himachal Pradesh, Town and Country Planning Act, 1977, and as such no person can sub-divide the land unless permitted to do so as per rules framed under the said Act.

10.6. Construction in sinking and sliding Areas.—Ordinarily no construction should take place in the sinking and sliding areas, keeping in view, their un-safe nature for human settlement. However, these areas would remain available for the development of recreational infrastructure. In special cases construction of single storey residential house can be allowed with the special permission of the Director. Such construction should generally be of light building material preferably Timber and Tuber. These areas have broadly been identified as below:—

10.6.1. Highly sinking prove area.—This include the northern slopes of the ridge extending upto Grand Hotel in the west and covering Lakkar Bazar including Central School extending Auk-Land Nursery School and extending down below upto Dhobi Ghat below the Idgah Electric Sub-Division.

10.6.2. Sliding areas.—This includes Laddakhi Mohalla, the spurs below the office of the Director of Education and the surrounding areas of Clarke's Hotel.

ANNEXURE I
ANALYSIS OF THE EXISTING SCHOOLS
(Government/Government aided)

Sl. No.	Name of Institution	Locality Pop. Served	Play Grounds	Expansion Possibilities	Government Building	Building Condition	Remarks
1	2	3	4	5	6	7	8
1.	Hr. Sec. (Boys) School Simla	Simla-1	Sufficient	Yes	Govt. Bldg.	Good	—
2.	Hr. Sec. (Girls) School, Portmore	Simla-2	-do-	-do-	-do-	-do-	—
3.	High School Girls, Lakkar Bazar	Simla-1	-do-	-do-	Rental Bldg.	-do-	Requires re-location.
4.	Govt. High School, Shogi	Village & P.O. Shogi, District Simla.	In-sufficient	-do-	Govt. Bldg.	-do-	—
5.	Govt. High School, Totu	Totu, Simla-9.	-do-	-do-	-do-	-do-	Primary Department is in rental Building.
6.	Govt. High School, Chhota Simla	Simla-2	-do-	-do-	-do-	-do-	—
7.	Govt. High School, Phagli	Simla-1	Sufficient	-do-	-do-	Not in Good condition.	—
8.	Govt. Middle School, Rampur Keonthal.	Village Rampur Keonthal, District Simla.	In-sufficient	-do-	-do-	-do-	—
9.	Govt. Middle School, Baichari	Village Baichari, Simla.	In-sufficient	Yes	Govt. Bldg.	Not in good condition	—
10.	Govt. Middle School, Sanjauli	Sanjauli, Simla-6.	-do-	-do-	Rental	-do-	—
11.	Govt. Middle School, Tutikandi	Simla-4	-do-	-do-	Govt. Bldg.	-do-	—
12.	Govt. Middle School, Krishan Nagar	Simla-1	-do-	No	-do-	Un-satisfactory.	—
13.	Govt. Middle School, Boileauganj	Simla-5	Sufficient	Yes	-do-	Good	—
14.	Govt. Middle School, Mayfield	Simla-1	In-sufficient	No	-do-	-do-	—
15.	Govt. Middle School, Summerhill	Simla-5	-do-	Yes	Rental	Not-satisfactory	Requires location.

16.	Govt. Middle School, Kaithu	Simla-3	-do-	-do-	Govt. Bldg. Rental	Good	—
17.	Govt. Middle School, Bharari	Simla	Sufficient	—	—	—	—
18.	Govt. Middle School, Dhalli	Simla-12	In-sufficient	—	—	Good	—
19.	D.A.V., Middle School, Sanjauli	Simla-6	In-sufficient	-do-	-do-	-do-	—
20.	St. Thomas High School (Girls)	Simla-1	Sufficient	—	—	-do-	—
21.	High School F.C. Sikh	-do-	In-sufficient	No	—	-do-	—
22.	High School Arya Samaj	-do-	-do-	-do-	—	-do-	—
23.	Dayanand Girls High School	-do-	-do-	-do-	—	-do-	—
24.	D.A.V. High School	Simla-1	Sufficient	-do-	—	-do-	—
25.	S.D. High School	Simla-1	-do-	—	—	-do-	—
26.	Primary School, Chhota Simla	Simla-2	-do-	-do-	—	-do-	—
27.	P.S. Kaithu (Girls)	Simla-3	-do-	-do-	—	-do-	—
28.	P.S. Chaura Maidan	Simla-4	-do-	—	—	-do-	—
29.	P.S. Annandale	Simla-3	-do-	—	—	-do-	—
30.	P.S. Shankli	Simla-3	In-sufficient	—	—	Not satisfactory.	—
31.	P.S. Nabha	Simla-4	Sufficient	—	Govt. Bldg.	—	—
32.	P.S. Ram nagar	Simla-4	-do-	—	-do-	—	—
33.	P.S. Chakkar	Simla-5	-do-	—	-do-	—	—
34.	P.S. Near B.C.S.	Simla-2	Sufficient	—	-do-	—	—
35.	P.S. Lower Tuti-Kandi	Simla-4	-do-	—	-do-	—	—
36.	Tara Devi Primary School	Simla-7	-do-	Yes	-do-	—	—
37.	G.P.S. Rajana	Simla	-do-	-do-	-do-	—	—
38.	G.P.S. Khalini	Simla-2	-do-	-do-	Rental Bldg.	—	—

ANNEXURE II
LIST OF SETTLEMENTS INCLUDED IN THE SIMLA URBAN REGION

Sl. No.	Name of Village	Hadbast No.	Location Code	Area in hectares	Pop. in 1961	Pop. p. in 1971
1	2	3	4	5	6	7
1.	Bajholiya	61	88	23	6	6
2.	Kolu-ki-Kwali	62	89	20	30	24
3.	Parhech	63	90	251	402	471
4.	Dharath	64	91	28	10	21
5.	Dafawag	65	92	41	38	50

1	2	3	4	5	6	7
6.	Manghech	66	93	78	79	97
7.	Shogi	95	94	96	250	391
8.	Mahauri	96	95	154	107	141
9.	Jangal-Tarab	97	96	253	65	126
10.	Patoid	98	97	180	157	196
11.	Shallgaon	99	98	90	126	179
12.	Nai	119	99	36	30	38
13.	Chadoli	120	100	155	77	75
14.	Chadau	121	101	96	46	54
15.	Bhad	122	102	151	115	126
16.	Banari	123	103	110	68	85
17.	Bharob	124	104	32	48	59
18.	Bhog	125	105	206	141	174
19.	Arghaun	132	110	91	78	68
20.	Kot	133	111	159	156	163
21.	Ayan	131	112	119	53	83
22.	Malog	100	113	72	66	95
23.	Barhai	102	114	220	484	862
24.	Jangal-Tuti-Kandi	103	115	56	109	102
25.	Bihar	104	116	84	180	244
26.	Jangal-Khalini	105	117	10	15	67
27.	Khalini	106	118	13	116	221
28.	Patewag	107	119	86	192	271
29.	Nahara	108	120	53	139	165
30.	Rajana	109	121	96	149	223
31.	Pati Rahana	110	122	215	264	396
32.	Kasumpti-Junga	112	123	20	454	879
33.	Mahili	113	124	236	234	315
34.	Sarheon	114	125	153	187	274
35.	Koara	115	126	136	145	153
36.	Pujarli	116	127	222	168	207
37.	Gosan	117	128	162	130	173
38.	Kawalag-Majhar	118	129	119	148	209
39.	Kufri-Koti	229	315	38	101	176
40.	Shohya	230	316	107	79	102
41.	Garboch	231	317	143	69	67
42.	Koni	232	318	128	36	65
43.	Thatrog	233	319	4	—	—
44.	Purani-Kothi	234	320	29	16	24
45.	Kanda	235	321	269	224	213

46.	Mul-Koti	237	323	149	194	252
47.	Jangal-Mul-Koti	238	324	65	—	—
48.	Rachhoi	239	325	4	11	12
49.	Jangal-Chharabra	240	326	145	—	—
50.	Chharabra	241	327	32	100	118
51.	Retreat	243	328	57	30	34
52.	Jangal-Sipur	244	329	130	3	6
53.	Sipur	245	330	69	87	113
54.	Mashobra	246	331	114	738	840
55.	Jangal-Mashobra	247	332	402	47	7
56.	Doji-Dhar	248	333	11	5	7
57.	Channarri	249	334	25	39	37
58.	Deothi	250	335	115	126	173
59.	Phagla	251	236	75	74	80
60.	Dohag	254	339	74	63	64
61.	Gharshi	255	340	23	29	33
62.	Jangal-Janog	319	243	31	—	—
63.	Maron	320	244	19	—	13
64.	Bhawana	321	245	134	94	95
65.	Jangal-Janog	319	243	31	—	—
66.	Pagog	323	247	140	223	327
67.	Sharawag	325	248	3	9	16
68.	Jangal Sharawag	336	249	121	3	3
69.	Jangal Anu	327	250	13	—	—
70.	Anu	328	251	63	121	135
71.	Cheri	329	252	48	79	86
72.	Rug	330	253	45	43	61
73.	Nihari	331	254	55	64	64
74.	Jangal Godi-ka-Nal	332	255	2	—	—
75.	Barmu	333	256	50	68	88
76.	Jangal Barmu	334	256	25	—	—
77.	Banreru	335	258	57	58	68
78.	Jangal Badfar (i)	336	259	11	—	—
79.	Badfar	337	260	45	23	26
80.	Kuftu	338	261	3	14	21
81.	Lindi Dhar	339	262	2	15	9
82.	Jangal Badfar (ii)	340	263	50	—	—
83.	Sarruila Baruila	341	264	130	87	127
84.	Shilru	342	265	17	16	21
85.	Panjog	343	266	53	81	73
86.	Dhanhen	344	267	25	35	77
87.	Dhani	345	268	19	13	21
88.	Mashech	346	269	1	7	5

1	2	3	4	5	6	7
89.	Ajdhar	347	270	10	3	5
90.	Dhali	348	271	24	95	91
91.	Lambi-Dhar	349	272	22	41	17
92.	Mungar	316	240	92	57	66
93.	Shilru	311	235	28	31	52
<i>Tehsil: SIMLA</i>						
94.	Sangti	13	39	19	26	33
95.	Sanog-Ubla	14	39	29	43	46
96.	Karog	15	37	111	22	24
97.	Kialoo	16	35	14	5	24
98.	Chamun	17	36	26	26	31
99.	Naog	18	28	52	45	65
100.	Gulcha	19	34	49	49	54
101.	Kavi	20	29	25	18	29
102.	Tud	21	27	226	250	327
103.	Karanda	28	30	66	10	4
104.	Manla	29	31	20	37	45
105.	Bhong	30	33	21	60	66
106.	Batol	31	23	41	33	42
107.	Lehri	32	32	32	35	43
108.	Bhakoo	33	22	16	3	16
109.	Nium	34	21	15	17	18
110.	Neri S.F.	35	20	97	78	98
111.	Bharech	58	47	32	7	7
112.	Penti	59	46	115	85	100
113.	Ichhaser	60	48	10	9	9
114.	Barohi	61	49	157	186	227
115.	Jablog	62	50	36	50	59
116.	Fatenshi	63	51	34	55	47
117.	Neri	64	60	20	13	24
118.	Garb Khurd	65	62	18	18	27
119.	Garb Kalan	66	61	13	27	37
120.	Rahai	67	59	23	44	54
121.	Sarogh	68	58	36	43	58
122.	Dhanail	69	55	27	35	38
123.	Kalawat	70	52	21	26	14
124.	Kiargirl	71	54	13	10	14
125.	Hiun	72	53	22	58	74
126.	Nalail	73	56	26	41	57

Un-inhabited

127. Anji	74	57	14	36	38
128. Chahil Khurd	75	66	53	65	62
129. Chelli Kalan	76	67	65	202	302
130. Ghaneri	77	65	8	15	16
131. Gadog S.F.	78	68	38	89	114
132. Kair	79	63	36	63	92
133. Dhenda	80	64	47	34	146
134. Totu	81	159	44	410	687
135. Dwat	82	160	15	16	18
136. Ghurshali	83	166	64	89	111
137. Mangloonj	84	171	22	—	—
138. Jamlog	85	167	5	6	Un-inhabited
139. Manjtai	86	164	121	340	680
140. Mharal	87	165	199	189	255
141. Rehlbaichri	88	89	114	115	140
142. Fatenchi	89	38	60	60	60
143. Jaog	90	90	26	45	45
144. Khanit	91	93	16	42	74
145. Bdhawni	92	95	19	4	3
146. Gag	93	96	223	19	24
147. Phogla	94	101	47	74	99
148. Katarni	95	97	67	99	116
149. Ner	96	12	11	7	12
150. Panaiola	97	141	25	32	43
151. Dhadbol	98	142	15	30	24
152. Rauri	99	140	16	16	21
153. Kharon	100	144	11	21	18
154. Dhamun	103	143	89	95	95
155. Chaog	104	98	59	70	84
156. Raura	205	87	76	83	121
157. Kater	107	91	41	39	49
158. Shilangra	106	94	22	41	50
159. Dhaila	108	80	19	24	33
160. Kanda	109	79	213	174	217
161. Kharol	110	81	19	23	26
162. Ladvi	111	82	53	28	35
163. Rampur	277	181	328	364	498
164. Balgag	332	168	49	29	29
165. Bhawana	333	173	72	99	108
166. Shillu	334	169	52	91	115
167. Kalloo	335	162	23	26	34
168. Jadeni	336	161	29	53	87

1	2	3	4	5	6	7
169.	Bagagli	337	163	173	230	292
170.	Badoh	338	170	37	51	44
171.	Shiohi-Bagi	339	179	96	111	174
172.	Najhulu	341	180	46	59	76
173.	Kergi	342	175	33	52	49
174.	Bagnja	343	172	32	47	69
175.	Pant	344	174	22	31	40
176.	Dhanokhar	345	176	23	10	12
177.	Dooh	361	192	25	6	9
178.	Heon	363	189	10	13	12
179.	Shemleg	364	190	80	56	59
180.	Jadehal	365	191	45	23	24
181.	Dhamul	366	188	40	36	54
182.	Kharoj	367	187	23	29	31
183.	Bijli	368	186	17	20	25
184.	Shangin	369	185	39	70	74
185.	Matholi	370	184	48	93	135
186.	Phail	371	193	100	145	143
187.	Dheri Bagairi	372	194	66	123	143
188.	Dul	373	198	31	19	41
189.	Jadiana	374	195	20	37	38
190.	Dhari-Ghat	375	196	84	—	5
191.	Lagru	376	197	25	28	33
192.	Bari	377	199	4	7	11
193.	Ganperi	378	200	34	72	85
194.	Jalel	379	201	32	98	125
195.	Shadiala	380	208	11	6	25
196.	Batlana	381	203	36	76	89
197.	Ganheri	382	204	28	57	62
198.	Shal	383	25	11	8	24
199.	Jamati	384	205	12	26	39
200.	Jaog	385	207	8	10	11
201.	Tarari	386	208	22	25	23
202.	Kotla	387	209	33	—	9
203.	Bain	388	210	34	13	21

204.	Lega	..	389	211	19	19	24
205.	Shakoh	..	390	212	17	29	36
206.	Bathun	..	394	213	49	98	104
207.	Lohara	..	395	214	4	—	Un-inhabited
208.	Panog	..	396	215	30	75	114
209.	Gowahi	..	397	216	70	54	66
210.	M.C. Simla	..	—	—	1,813	42,597	55,326
211.	Cantonment Board, Jatog	..	—	—	142	1,487	1,291
					15,114	59,516	77,171

नियन्त्रक, मुद्रण तथा लेखन सामग्री, हि० प्र०, शिमला-३ द्वारा मुद्रित तथा प्रकाशित ।